Hints on Grape Culture.—VII.

MUCH as we love the subject of grape culture, we approach our next topic with some misgivings, produced in a great measure by the effects of the past winter. We may not, it is true, have another such in many years; but we have been of opinion for several years past that our seasons are changing and becoming more trying. The "cycle" may or may not have been completed during the past winter; the next may be better or worse; but of that we know nothing. The only safe course, therefore, in recommending *What Kinds of Grapes to Plant*, is, to take for a basis what we already know, not what we would wish. The interests involved in this matter of grape planting are so great, that we are impelled to take the only safe basis, the facts already obtained. We prefer, in brief, to be on the safe side, and to be so cautious in our recommendations that no man shall hereafter reproach us with having misled him. We may not go as far as some would wish, but quite as far, we think, as our knowledge and experience, and a due regard to the interests of our readers, will warrant.

Let us now examine such kinds as may be safely recommended for "general cultivation." For this purpose we want a grape constitutionally healthy and vigorous, productive, of fair size in bunch and berry, of at least "very good" quality, and having such hardiness and early maturity as to fit it for all sections of the country. We have here requirements hard to be met at present, but we shall, no doubt, in a few years have a number of grapes that will fully meet them. At present the number is very limited. Of these, we unhesitatingly place the *Delaware* at the head of the list. It exceeds our requirements in one particular, in being of the "best" quality. If all grapes for "general cultivation" were required to be of the "best" quality, we should, with our present experience, be compelled to stop short with the Delaware. Last fall we should have placed the *Diana* second, and would like to do so now; but during the past winter it has in many places been killed, when left fully exposed. Were the practice of covering the vines common, all doubts in regard to the Diana, as well as some others, would be removed, since it ripens sufficiently early. In quality it will rank among the best. We think, on the whole, that the *Concord* may be added. Inferior in quality to the Delaware, Diana, and some others, it is still "very good," and nearly meets our other requirements. We were of the first, we believe, out-

side of those interested in its sale, to speak a fair word for the Concord, and to predict that it would take its place by the side of the Isabella, as a market-fruit.

Our list for general cultivation we shall have to close here, to the disappointment, no doubt, of not a few; but it must be borne in mind what our requirements are, and that we are recommending *table* grapes only. When speaking of grapes for *wine* and *amateurs*, others may be added to the list. Some may think that we should have added the *Isabella* and *Catawba*, since they are on the list of the Pomological Society; but we do not hesitate to say that they have no right there whatever, and never should have been placed there. There never has been a time when the Catawba was fit for general cultivation, and that fact is now almost universally admitted. We take no exception to its fine quality; that all recognize; but its late ripening and tenderness unfit it for cultivation in half the country; moreover, it rots more than all other grapes together, and infects every thing within reach of it. The Isabella, too, is a good grape, though much inferior to the Catawba; it is not early and hardy enough, however, for general cultivation. Both these grapes should, therefore, be stricken from the general list of the Pomological Society; their proper place is for localities.

There are some of the new grapes which we think will, in time, take their place on the list for general cultivation; but they have not yet been sufficiently tested to speak of them confidently; such, for instance, as the Cuyahoga, Creveling, Hartford Prolific, and others. The last has been some time before the public, but its character is not yet satisfactorily established. The Cuyahoga and Creveling are much less known, but we have formed a favorable opinion of them; but all of them must have been tested over a wide extent of country before we can form a just estimate of their fitness for general cultivation. It is much in favor of a grape for this class that it originated or has ripened its fruit for some time in a section sufficiently rigorous to test its hardiness.

If, now, we lessen our circle a little, we shall be enabled to enlarge our list. Wherever the Isabella ripens its fruit unfailingly, we may name in addition to it the Diana and Union Village. We are tempted to place the Rebecca here, because we find it, when fully established, nearly or quite as hardy as the Isabella; it is a much superior grape.

Contracting our circle again, we may add the Catawba and Anna; and either here or on the preceding list, the Allen's Hybrid will probably take its place; but it is not yet sufficiently known to locate it. The Catawba, as before remarked, is very liable to the rot, which has caused its culture to be entirely abandoned in some places. This is deeply to be regretted, since it is one of our best grapes; but the fact ought to be known. We have almost ceased to recommend it on this account alone. The Pauline, Brincklé, Maxatawny, (a very promising grape,) and others, must go some distance south of New York. There are many new grapes before the public, but we have seen too little of them to give them a place yet, though we have most of them growing. If any of our readers think we have

omitted in either of our lists any grape that really belongs there, we should be glad to hear from them. We have no objection at all to having our lists criticised. Of more local varieties we shall say something hereafter.

Of the small berried grapes, we may mention as hardy the Elsingburgh and Lenoir. Though the berries are small, the bunches are large, and the quality excellent. The Herbemont requires covering or shelter, and properly belongs further south.

A few words may be added in regard to suitable kinds for the garden, where a succession of fruit is usually wanted. Nothing should be admitted here that is not really "best," except among that small but useful class of amateurs who can afford to indulge in the luxury of trying every thing new. Of kinds well known a choice selection for the garden may be made from the Delaware, Diana, Rebecca, Union Village, Anna, Isabella, and, but for the rot, Catawba. To these will probably be added, Allen's Hybrid, Cuyahoga, Manhattan, and others.

LANDSCAPE ADORNMENT, No. XV.—ROADS, No. 3.

BY GEO. E. WOODWARD, CIVIL AND LANDSCAPE ENGINEER, 29 BROADWAY, N. Y.

It is a simple thing to show how to spend money, no talent whatever being required to commit the most wasteful extravagances. In landscape work, the error of extravagance is one most frequently committed, and tends, by example, to prevent many from gratifying their tastes. To illustrate the manner of executing work that shall be more nearly perfect and beautiful, and to do it at the same time with strict economy, is not so easy.

The more perfect one's knowledge is of the various means of producing landscape effects, the less will be the expenditure, for the reason that what he does is systematic and business-like, and he knows precisely the result he intends to accomplish.

There is scarcely a better illustration of misspent time and funds than home-made performances in road-making. He who constructs a road each year, or at irregular periods of his life, scarcely takes the trouble to acquaint himself with any of the scientific principles belonging to road-making, and naturally falls into and repeats the accumulated blunders that have gone before him. Undoubtedly it is a captivating pleasure to do all one's own work, yet it is an unsatisfactory reflection to find that your neighbor has attained far more durable and beautiful results at one half the expense.

Road-making is a scientific pursuit, and to follow it successfully requires a thorough knowledge of its principles. Dr. Lardner says, "I do not know that I could suggest any one problem to be proposed to an engineer which would require a greater exertion of scientific skill and practical knowledge, than laying out

a road;" and we doubt if he could have found a man in this country who would not feel grossly insulted if he were told the plain truth, that he is ignorant of the first principles. There is money enough squandered every year in building ornamental roads in an improper manner, that, if judiciously expended, would add materially to the embellishments of a place, instead of being worse than buried a couple of feet below the surface.

The limit of permanence and durability ought to be a study with those who construct roads, instead of adopting the expensive fallacy, that if one foot of broken stone is good, two or three are necessarily better.

The chief characteristic of a good road, aside from beauty of location and alignment, are smoothness, hardness, and permanence, and the most desirable of all is to get these with the most economy of means; the true way to do which is to adopt at once those principles which long years of scientific investigation and experiments have proved to be good.

The true location of an ornamental road would be in graceful flowing lines, the grade of which should be distributed uniformly throughout its length. Its position should be such that no more surface water than falls on it should flow over it; it must not be the channel towards which, and through which the surface water of adjoining and higher land will flow. One of the most important considerations, after a well-studied location, is thorough drainage wherever it is required. The earth bed should be dry and firm, and prepared to the same degree of convexity that is intended for the finished surface. The depth of the excavation for the road metal need not exceed six inches as an average; it will, however, in adjusting the grades, be more in some places and less in others; but the whole thickness of road metal, including the binding, need not under any circumstances be over six inches.

There are two well-known methods of constructing broken-stone roads, those of Telford and McAdam; the former having a rough pavement of stones well wedged or chinked down so that they can not move, and covered with a layer of broken stone, $2\frac{1}{2}$ inches cube, and finished with a blending material of good, clean gravel $1\frac{1}{2}$ inches in depth. The McAdam plan is to have all the stone broken to $2\frac{1}{2}$ inches cube, put on in three layers, each of which is to be worked in by use, and finally becoming consolidated into a firm, compact, impenetrable body, without the aid of any other material.

Of late years a third plan of making broken-stone roads has been introduced by Mr. Bayldon, an English engineer of high repute. It embraces portions of the Telford and McAdam plan, with some admirable improvements. It consists of putting on the broken stone, $2\frac{1}{4}$ inches cube, in a single body, rolling it thoroughly; then $1\frac{1}{2}$ inches of blending material, either gravel, ashes, fine chippings of tough stone, scoria, or furnace cinders, and thus opening at once to the traveling public a finished road, instead of compelling them to consolidate a mass of broken stone, as in the McAdam plan.

The Telford and Bayldon systems are the only two that should be used for metaling an ornamental road, the McAdam system being objectionable from the length of time required to compact the mass, and from the fine dust ground from the stone to aid the process of consolidation.

We have stated that six inches of broken stone are sufficient for an ornamental road; but if the Telford plan is used it may have to be a little thicker; not necessarily so, but for more convenience in laying it. In a road of this thickness, the only trouble will be with the frost; if the ground be well drained, and the road well rolled when the frost comes out, no harm will be done. On public highways sustaining a continuous stream of trade and travel, four and six-horse loaded teams, and rapidly driven post coaches, the average thickness of the Telford road was 11 inches. Mr. McAdam considers 10 inches sufficient to carry the heaviest traffic, while on the Leeds and Wakefield Turnpike, in England, in 1841, which was constructed on the Bayldon system, the entire thickness was 7 inches, and in 1857 was in full use and good repair, although worn down to an average depth of 3½ inches, in some places being only 1 to 1½ inches thick.

For an ornamental road, or, in fact, for any other, we give our preference to the Bayldon system. We believe, all things considered, that it is the cheapest and most durable road; that the expense of breaking up the stone is less than the extra hauling and labor of laying the Telford pavement; and that it presents the simplest form of construction, so plain that any one from working drawings and specifications could make a road.

Now this doctrine of using a thin layer of materials, properly and scientifically put together, and which has been thoroughly tested and established for from 30 to 50 years, is universally scouted among builders of ornamental roads, and we suppose for the reason that it is human nature to deride or break down that which we can not understand, or which is at variance with preconceived notions.

We have within a week had occasion to examine ornamental roads, on which the labor of excavating from eighteen inches to two feet in depth, and the hauling alone of the materials to fill it up, have actually cost more money than an accomplished engineer would require to build a first-class road, one that will outlast two generations, and pay for itself twice over in the saving of repairs.

The prevalent manner of constructing broken stone ornamental roads is utterly devoid of any thing like skill or principle. A mass of stones of all sizes, from a foot to eighteen inches in depth, covered with about six inches of gravel, is the whole story; and on the principle that two wrongs make one right, the open stone work is to drain the gravel, and the gravel is to prevent the stones from rising to the surface. Such roads never become consolidated; the efforts of the larger stones to rise on top, keeps the road always open, and requires constant attention, while a properly constructed road grows better by use, and soon unites into a compact solid body, through which weeds can not grow, and which can be kept in a neat and polished order with the lightest care.

[There are probably as many failures and as much money foolishly wasted in the construction of ornamental roads, as in any other one thing connected with landscape improvement. We do not think Mr. Woodward has put the case one bit too strong. Nine out of ten men think they can build their own roads, and this is the reason why nine out of ten roads are such wretchedly poor things; besides, these poor roads very often cost twice as much as a good one. The plea usually is, "Oh, I can't afford to pay a professional man to make my roads;" when, in fact, a professional man would often save half the expense; we mean, of course, a man who understands his business.—Ed.]

GROWING MELONS IN POTS.

Since the increased attention given to "orchard house" culture of late, every thing relating to the cultivation of fruits in pots is read with interest. Mr. Robert Fish, in a late number of the English *Journal of Horticulture*, gives the following directions for growing Melons in pots; they will in many respects apply to the treatment of the Melon here. Except, however, for early forcing and the preparation of plants for early fruiting out of doors, this mode is more interesting to the amateur than others. Mr. Fish says:

"Melons may be grown in a green-house from July to October, and without any bottom or other artificial heat; but only well if they have the green-house either to themselves, or have such plants as neighbors as would stand a rather close, moist heat when growing. If the house was kept airy enough and cool enough to keep Pelargoniums, Fuchsias, and things of that sort in steady vigor, then Melons would have a struggle to do well, and could only be expected to fruit well in a fine, sunny season. Otherwise if a house can be closed early in an afternoon, and only a little air given early in the morning, but when the plants are growing freely not a vast deal given during the day, the Melon will grow under glass alone for the time specified, and rather better in a pot than when planted out, as its natural luxuriance will be moderated.

"We have had nice fruit from eight-inch pots, extra well attended to with manure waterings, but, in general, we prefer the pots to be fourteen or fifteen inches. We then prefer a plant that has been stopped at the rough leaf, and one shoot selected and tied to a little stick, and all the other buds nipped out. We would shift this plant from a sixty and a forty-eight pot into a thirty-two, and then when getting full of roots transfer the plant at once to a fourteen or fifteen inch pot, using rough, stiff mould, sometimes alone and sometimes with a little leaf mould, and we think the plants do as well with the rough soil alone. This is used neither wet nor dry, and squeezed lightly round the ball. If the soil is so stiff as to have a portion of clay in it, and thus might be apt to crack in a sunny day, we used either to put a little moss on the surface, or a little rough leaf mould or decayed dung, just to prevent the sun drawing the soil from the sides of the pot.

When we were forced to use rather light, sandy soil, we have mixed a little leaf mould with it, and used it rather damp than otherwise, and beat it round the balls and the sides of the pot with a wooden pestle. I say used, because for two or three years I have had less room for this kind of culture; but previously I have adopted it whenever there was a spare place in the house, sometimes training the plants to a stout stick, sometimes setting them on the floor of a house and training them to a string fastened to the pot and the rafter above, and sometimes to a little trellis in a pit in the usual way, and, however done, have had less trouble in pruning and better fruit as respects quality, because, so far as I am able to judge, the check given to mere luxuriance threw more of the sap of the plant into the fruit. Well, being thus potted, watering was given with some care, so as not to greatly saturate the soil with moisture before the roots were taking possession of it. As the shoot grew all the buds appearing at the axils of the leaves were removed, until the plant was two or three feet in height, according to the room that could be given it. The point of the plant was then nipped out, leaving four or six joints below it from which the buds were not removed. These soon throw out shoots, generally showing fruit at the first or second joint, and the process of stopping must be attended to as alluded to the other week.

"From two to four fruit is a fair crop. We prefer the plants to be trained upright or to a trellis, though we have had good crops from pots, the pots being sunk in a bed, and the plants trained over the surface in the usual way.

"Guano will do the plants good, especially if not used strong—say two ounces to a four gallon pot; and top dressings of dung, too, will be useful; in fact, we prefer this rich manure watering to incorporating any thing rich with the soil, as there is less danger of cankering at the collar of the plant. We found it also advisable to have a small mound round the collar, and another small mound round the side of the pot; the latter not only tended to prevent the soil cracking there, but the water being poured in a shallow trench between the sides of the pot and the collar of the plant, the latter was not easily wetted, and the moisture could not escape by the former without wetting the earth in the pot thoroughly and regularly. As the fruits approach ripening, the pots would be better if plunged, or half-plunged, or covered with mat or calico, etc., because too much dryness then might be hurtful, and too much moisture would be apt to militate against flavor. Except at that period I would as soon have the pots stand exposed as not. Though thus recommending chiefly pure loam and manure waterings, instead of rich soil at once, we hope if our correspondent tries the pot culture, he will not use guano, or hen-dung, or even fresh deer-dung, so strong as to kill or injure the plants. It is best and safest to use it weak and often."

CACTEÆ—REMARKS ON.

BY DANIEL BARKER, HARTFORD, CONN.

The Cacteæ are a very numerous and exceedingly interesting tribe of plants, which we think ought all perhaps to be included in one genus, divided into several sections. At the same time, it must be admitted that they are so numerous and varied in their forms, that it is more handy in the system divided into the numerous genera, as we now find them; but in our practice we have found that such genera are merely nominal, as they hybridize with one another—many of them at least—as we have found by experience. We had under our charge for ten years, a collection containing upwards of 15,000 plants of the order Cacteæ, which contained Mammillaria, Melocactus, Echinocactus, Cereus, Cactus, Epiphyllum, Pereskia, and Opuntia. From Epiphyllum Ackermanii and Cereus speciosissimus we raised several hundreds of seedlings, many of them quite distinct, most of which produced flowers of the size and shape of Epiphyllum with the beautiful color of the Cereus. Those who cultivate Epiphyllum Macoyii, can not fail to recognize in the flower the form of the Epiphyllum Ackermanii, with the color of Cereus speciosissimus.

The Melocactus and Echinocactus, we have hybridized with perfect success. The progeny are, almost without exception, most grotesque, and in the highest degree interesting to the admirer of succulent plants.

All the Cacteæ grow in similar situations; hence they require nearly the same treatment. The differences between them are those of shape, size, and color. With the exception of about two, which are found in the south of Europe and one in Missouri, they are all natives of South and Central America. There they inhabit the most dry and barren situations on the slopes of the mountains, and many of them upon rocks where water never stagnates. During the dry season, which is by far the greater part of it, they remain quite inert, many of them retaining, if not their freshness, at least their plumpness, I presume by absorption through the epidermis; while many others become flaccid, and may be twisted about in any shape without sustaining the slightest injury. During this season they show but few of the ordinary characters of vegetation. In this state they are merely pieces of matter, the vegetable quality and life of which are inferred from the texture of the surface, and which is not unfrequently quite glossy, of various shades of green, red, brown, and sometimes with beautiful tints of crimson and carmine. Many of them are covered with spurs and prickles, usually in tufts, some straight, others curved or hooked, quite formidable in appearance. In habit, these interesting plants differ from every other class, in having no distinct difference of petal, wood, and bark, or of leaf and stem. How, therefore, can the name Epiphyllum be a correct one? As we understand the term, it implies that the flowers are produced or grow upon the leaves,

whereas *there are no leaves.* The entire substance of the plant is always a mass of matter, which might be called a stem or frond, but never a leaf.

In all the tribe, so far as we are informed, the principle of vegetable life is not only stronger and more generally diffused, but more indestructible than in almost any other tribe of plants. The smallest portion of a stem will not only emit roots, but in due time become a perfect plant; and a piece from the side or bottom is equally adapted for the purpose as from the end. If taken from the end, it matters not which end is placed in the earth to root.

The capacity of remaining inactive for such lengthened periods of time, and then being so easily restored to growth and flowering, accords well with the natural situation of the plant, and is, moreover, of the highest practical service in their artificial culture. It is not unusual, upon the hot, desolate locations in which they grow, that they are deprived of rain for a whole year, which is caused by adverse currents and other circumstances; in this parched up state they do not die, but merely remain inactive till the wet season returns, when they immediately start into growth, and flower.

During the summer of 1841, we had placed, by way of experiment, some plants of Melocactus Ottii and communis, Echinocactus subgibbosus, E. melocactiformus and intricatus, with several plants of Cereus, Mammillaria, and Cactus, upon the upper shelf, where they received the direct rays of the sun in the pine stove. In this torrid situation they remained for twelve months, without any water whatever, after which they received a copious supply, retaining them in the same situation. The result was five plants dead; forty-five, after having been in a perfect state of inactivity for twelve months, upon having a good supply of moisture, began to grow immediately, and many of them produced very fine flowers. After this we never experienced any difficulty in flowering the beautiful Echinocactus Eyresii, formosus, nobilis, with many others. I do not wish to be understood that we placed 15,000 plants upon the shelf of a pine stove for twelve months, to starve them into subjection. Our practice was, after a plant had flowered, or refused to flower, after gradually withholding water, it was then placed in the dry stove (a hothouse for plants requiring no moisture, the temperature of which was about 80° Fahr.) for three, four, or more months, according to circumstances, such as the natural habit of the plant, the time when the plant would be required to produce its flowers, etc., all of which the practical man will understand, and all of which can be understood by any intelligent mind, by observation and inquiry, by becoming acquainted with the geographical distribution of plants, the all-absorbing study of botany, with a thousand other delightful researches in the volume of Nature.

We believe the point has been fully proved, at least to some extent, particularly with the growers of the beautiful order Orchideæ, that the growth and flowering of many plants are more energetic in proportion as they have been in a state of inactivity. We believe the rare flowering of the night-blooming Cereus

to be entirely owing to keeping it in a state of activity throughout the entire year.

A case in point. We had a plant of Cereus grandiflorus attached to the back *fruiting* pine house, covering a space of 30 by 4 feet, or thereabout; in this house the air was moist from the watering of the plants and other causes. Here the Cereus grew and flourished amazingly, producing its singular roots from all along the stems in the wildest confusion, but seldom produced its flowers. In using the same house as a dry stove, the Cereus, instead of being of a fine, lively green color, suddenly became brown, and somewhat rigid. Water was withheld for a season; when again applied by the syringe upon its stem, with a good supply of manure-water in the tub wherein it was growing, it produced its splendid odoriferous flowers without stint or stay for several weeks in succession. The inference to be drawn was, in cultivating the Cactæ, of whatever species they might be, to place them in a house by themselves; or, if that is not practicable, to keep them as far apart as possible (during their period of rest) from other plants that require frequent watering all the season. Unless kept quite dry for a season, their awakening into growth and flowering will be found to be much less vigorous. During this time, wherever they are kept, all water should be withheld, not only from the soil wherein they are growing, but in the air by which they are surrounded. In this state they are subject to little injury from variations of temperature, unless it should be near freezing, which they can not bear. A rather low temperature during the time of rest, is more favorable than otherwise. As soon as it is perceived that their vigor is coming into action, the temperature should be raised, and water given in such quantities as to completely drench them, (but not in such quantities as to turn them into aquatics.) By such timely treatment most all the species can be brought into flower every year; and as many of the flowers of the Melocacti and Echinocacti are exceedingly beautiful, the proper management of them would contribute very much to the general appearance and richness of collections of flowering plants.

There is another circumstance to which we would invite the attention of those who have no hot or green-house, and which should enhance the value and interest of this singular and interesting class of plants, viz.: for the portable parlor plant case, wherein they may be grown the entire year, they are invaluable.

As we shall have occasion to revert to the Cactæ, as well as to the plant case, soon, we shall say no more upon them now.

[The whole treatment here indicated is based upon one special requirement, a season of rest. This is often overlooked in many other plants besides the Cactus. There is no plant better fitted for growth in rooms than this; very few do so well there.—Ed.]

THE CULTURE OF THE CARNATION.—II.

BY AN OLD COUNTRYMAN.

It only remains to give some directions for the propagation of Carnations.

Two modes are usually adopted, namely, by layering, and by cuttings, or (as they are always called in this family of plants) "pipings."

Of course Carnations can be and are propagated by seeds; but then the particular variety is not preserved, as they vary in their bloom, and so much so that from the same pod of seed, flowers will come of all the various varieties pointed out in the commencement of this paper. It is by this means that new varieties are obtained, but as flowers possessing qualities that are esteemed by florists are perhaps not one in a hundred seedlings raised, it is only those who grow them for sale or the most enthusiastic among amateurs who take the trouble to increase their collection of good flowers in that way. To save seed, the petals, as the blooms die off, should be gently withdrawn, and then the receptacle containing the seed will be perceived at their base. This must remain on the stem until it becomes hard and brown; then it may be gathered and kept until spring, when the seed may be sown in a pan of fine earth in a green-house, or under a hand-glass or a garden frame.

Cuttings or pipings may be taken off and rooted at any time of the year, except the winter, in the following simple way. Prepare the piping for planting by cutting it through *immediately* beneath the pair of leaves at the second or third joint from its top. Then cut off about half of the length of every leaf on the piping except the two bottom leaves, which are to be removed altogether. Then, having a pot containing some very light fine soil, with half its bulk of sand mixed with it, make the surface smooth and even, and insert the pipings in the centre an inch apart, and from half an inch to an inch deep, according to the size and length of the piping. Water the pot of pipings *through* with the *fine* rose of a watering-pot, and let them dry; then place a hand-glass (or a tumbler water glass will do) over the pipings. *This glass must be taken off, the inside wiped dry, and immediately replaced, every day. If that be done*, and a little water be given once in a week or ten days, pipings will readily root either in the window of a room, or in a green-house or garden frame, any time between May and October, without bottom heat. But those who have a hot-bed usually place the pots in that, which hastens the process.

The propagation by layers requires rather more dexterity in the operation itself, but is less troublesome, as it requires little or no attention after it is performed, except occasional supplies of water. The method of layering is to remove the leaves from the second or third joint from the end of the shoot, and then with a sharp pen-knife cut a slit close under and half through the joint, but without separating the shoot from the main stem. Then place some light sandy soil on the surface of the pot, and having a small wooden hook, stick, or twig,

three or four inches long, press the cut joint down into the sandy soil, and placing the small hook over it, fix it down in that position. By this means the cut joint is placed half an inch or so beneath the surface, and thus circumstanced, if the soil is kept moist by moderate sprinklings every day or two through the rose of a water-pot, roots will in six or seven weeks be produced from the cut joint; when the new plant thus formed may be removed by first dividing the stem between that and the main stem of the plant, and then passing a broad knife with care beneath the newly formed roots, and raising the new plants. While rooting the plants should remain in the open air, shaded from the sun.

Both pipings and layers, when rooted, are then to be potted in any good garden soil in pots about four inches in diameter. Three or four plants can be placed in each pot, so to remain through the winter, as stated in the beginning of this paper. Each small pot will then in the spring give enough plants to be placed in each large pot for bloom.

When it is wished to raise Carnations for exhibition, and consequently in the greatest state of perfection, as a general rule, only one flower must be allowed to remain on each plant. There are a few varieties that possess an extraordinary quantity of petals, which form an exception to this rule, as those kinds will burst their pods unless two or three are allowed to expand. But with most varieties, when intended for exhibition, all the buds but the first should be removed. Some beginners can not "find it in their hearts" to pull off so many "nice buds." Let them see a pot with four plants, and each one with a flower four inches in diameter upon it, in full perfection, and I never yet saw the man who wanted more in that pot, or was dissatisfied with the result of his care and labor.

There are modes adopted by florists for the better preserving and displaying the bloom that I have not adverted to, such as cards and wires. The cards are circular, three inches in diameter, with a hole half an inch in diameter in the centre, from which a slit is cut to the circumference to admit of passing it over the stem of the bloom. This being done, the card is drawn up upon the pod when the bloom is just expanding behind the outer row of petals. This keeps the petals from reflexing or falling back unevenly, and if the card be a light sandy or fawn color, it enhances the whiteness of the ground color of the bloom. But when cards are thus used, it is requisite to have some short brass or copper wires about five or six inches long, to secure the blooms from drooping by passing the hooked end of the wire round the bloom behind the card, and then pressing the other or pointed end of the wire into the stick, to which the stem of the plant is tied.

But these things have nothing to do with the culture of the plant in perfection, which it has been the object of the writer, an old and enthusiastic carnation grower, to point out.

[Having done this up so well, we hope an "Old Countryman" will take up

some other of his old favorites, the florist's flowers, which are yearly becoming better known and better grown.—Ed.]

NO EVIL WITHOUT A COMPENSATING ADVANTAGE.

BY W. A. WOODWARD, MORTONVILLE, ORANGE COUNTY, N. Y.

The total failure in this county of the crop of stone fruit, Cherries, Plums, Apricots, Nectarines, and Peaches, in consequence of the severe cold days of January 13th and February 8th, 1861, may possibly be compensated for in the destruction of the Curculio or Plum Weevil.

The fact that there is no stone fruit this year for this insect to lay its eggs in, and thus perpetuate its species, gives the cultivators hope that it may be exterminated, for a few years at least, and that much good may arise from an apparent evil. This insect has already laid its eggs in apples, pears, and other fruits, but without producing the same effect as upon the plum and other kindred fruits. The Apple and Pear, after being impressed with this c, grow over, and show only a slight wound, which soon disappears; while the stone fruit, after being perforated by the insect and the eggs deposited, fall; the larva then leaves the fruit and enters the ground. Although this is known as the Plum Weevil, yet it destroys the Cherry and injures the Peach, and is enabled to perpetuate its species on these when there are no plums. I have upon my place, Keewaydin, one hundred and sixty-five plum trees, and for six successive years have had no fruit except one season, when I gathered only enough for the use of my family. If the Plum Weevils are destroyed, I shall consider it a great blessing to have been deprived of other stone fruit for a single year. Let us watch the result. If my anticipations are realized, we shall have "some plums" in 1862. Advise your readers to bear with their plum trees another year before cutting them down as cumberers of the ground.

[We could wish that the law of compensations had full sway here; but we fear, notwithstanding all our wishes, that Mr. Woodward has over-estimated its present force in the instance under consideration. It is true that we have no stone fruit, in which the Curculio most readily perpetuates itself; but in the absence of these it betakes itself to others, such as the Apple, Pear, etc. Though many of the nits are thrown out in these fruits, especially in the Pear, enough are hatched to insure the destruction of the ensuing crop of stone fruit. The evil is somewhat lessened in respect to the Plum, but not eradicated. It has occurred to us, however, that the law of compensations may act in another way here, the loss of the Plum insuring a crop of Apples. The present season having demonstrated more clearly than ever, that the Curculio attacks the Apple in force when deprived of the Plum, it becomes interesting to imagine how far the destruction of the Plum insures the safety of the Apple. It seems to us certain

that nearly one half of the present small crop of apples will be lost through the attacks of the Curculio; never before have we seen this insect work on the apple in such a wholesale manner. Fruit growers should give their attention to this matter. It may hereafter be found a wise economy to plant a belt of Plum trees around our apple orchards, as a safeguard against the attacks of the Curculio.—Ed.]

THE ROYAL HORTICULTURAL SOCIETY OF LONDON.

The Royal Horticultural Society formally inaugurated the opening of its new gardens at South Kensington on Wednesday, June 5, 1861. The occasion seems to have been one of peculiar interest, and was marked by all the *éclat* that could be given to it by speeches, processions, music, the presence of the royal family, and a very grand floral exhibition. We give below Mr. Beaton's very spirited account of the Exhibition. It will not only give our readers a good idea of what is said to have been the finest exhibition ever held in London, but the managers of our own exhibitions may gather useful hints from it. The following is Mr. Beaton's account, taken from the *Cottage Gardener:*

"This will be a memorial day in the annals of gardening. From the day Mr. Sabine took up the spade at Chiswick, to the planting of that Wellingtonia on the 5th inst. by the Prince Consort, immediately after he had opened the new Garden and declared it to be the inner court of a vast quadrangle of public buildings where science and art may find space for development, the science of our craft found small space for developing the energies of the practical mind of gardeners; and practically, we had no leader for the last forty years, otherwise we might have turned out more Paxtons, McIntoshes, Flemings, and Elyes, and other heads of sections of the circle than we have done. But let us be thankful, and hope that the next forty years will make up the difference; and that the heads of the different branches of the cultivators of the science, and of the practical part of the work before us, will unite their efforts, not only within the 'vast quadrangle,' but extend them to the land's end on each side of it, and to the limits of the great circle whose products and properties we are all interested in developing.

"This commencement was on a magnificent scale, and every one, from the highest to the most humble, who contributed to the success of the opening scene, must have been well pleased at the result. All the arrangements were perfect, as far as I could see and hear. There never was such an enormous stock of plants in one place before, and of such a description. In twenty-three years after the first experiment was tried of showing plants for their own sake instead of for their flowers, two-thirds of this vast gathering were of that very description; and some of those who were the foremost to laugh at the daft experiment of 1838, were laughing in my presence in these arcades at their own good luck and

success in crowning the rival to the floral fancy, and you never saw another set of people more in harmony and more pleased with each other than we were.

"The most extraordinary circumstance, however, connected with this step in the progress of our experiments, was a large collection of most welcome plants that were sent from Japan by Mr. Fortune expressly for this Exhibition. These Japan plants arrived in England on the Friday before the exhibition day, and were in a fit and proper state for the exhibition tables—in short, as good specimens of cultivation as ever I remember to have seen exhibited by English gardeners in these very rare or very new plants. Indeed, I could name some plants at the Exhibition which came from within a short distance from the Garden, that were not so creditable to the growers as those sent over by Mr. Fortune were to the gardeners of Japan. These Japanese seem to have the very same style of taste in plants as ourselves, and also to have as good gardeners and as careful propagators as we could turn out. Mr. Standish, of Bagshot, exhibited these plants, and, of course, he will set to and propagate and sell them as fast as possible.

"Cyanophyllum magnificum and Dion edule were the two most splendid plants there. One plant of Acrophyllum venosum was the greatest triumph of gardening there in growing specimen plants; it was in a first-prize collection of nine plants by Mr. Chilman. The best single specimen there, or any where else in Europe, I should think, was Mr. Warner's Lælia purpurea with thirty-six full-blown flowers on it. It was only the week previous that I was boasting of one at the Crystal Palace from Mr. Stone, which had eleven blooms on; and even at this grand Exhibition, two of the best Lælia purpureas had each only eight flowers. The greatest success over the greatest difficulty in growing very rare plants, was Mr. Leach's exhibition of the Disa grandiflora, growing exactly like a luxuriant native along the edge of some ditch where there were no commissioners for looking after the drainage and sewerage.

"In my own favorite family of Ferns, Gleichenia is now the most favored at the Exhibition, and I think every species of it was there; and every one who showed Ferns had more or less of the different Gleichenias.

"The Fruit was most tempting, and the only part at the Exhibition that was not well arranged for. The fruit stand was an oversight—it was a double stand with one side, or one-half in the shade, and facing the back wall of the arcade; of course, one-half of the fruit could not be seen well. The Pines were as good as usual. The White Grapes not quite ripe enough for a high-class dessert; the Black Grapes were never better seen in this globe. The Buckland Sweetwater, for which I risked my liberty three years back at the Crystal Palace, was by far the best White Grape there, and will be the gardeners' best friend in White, as the Hamburgh has always been in Black. Ingram's Hardy Prolific Black Muscat is decidedly of the Black Prince section, and the very best of Grapes; and the Trentham Black is of the Hamburgh race, and wore the best bloom of all

the Black Grapes there. But I must put off the best part of the fruit tale till I have more time and room, adding only this remark on the grand new idea of giving prizes for dessert arrangement—that it turned out exactly as some of my patrons, from whom I learn all about the fashions, colors, taste, fancy, and forget-me-nots, predicted to me months back; and I would be bound that nine out of every ten gardeners who saw these desserts in competition, did not understand even the meaning of the first-prize dessert. Why should we not have the three degrees of comparison in the dessert? And, surely, people would need to know for whom the dessert was intended before they could make a proper use of the dishes, fruit baskets, and their own brains. Nothing, at least, would puzzle me so much as to be told to dish up eighteen or twenty dishes of fruit for a party, without having some idea of whom the party consisted.

"I began at the western arcades, and took the measure of the show in yard steps as nearly as possible. The plant stages were in three broad steps, covered with green baize, and set up against the white of the back wall of the arcade, which was most telling to Ferns and all the fancy and fine-leaved plants; but the white of the back wall took off much of the glow of Pelargoniums and Rhododendrons; indeed, more so, as all the light is from behind the head of the visitor. Cover that part of the back wall with green baize, and you spoil it much more. Too much of one shade of green *for a ground color* to green leaves of all degrees of green, will not stand the test of good effect out of best flowers. Dark brown or dark oak color I am told to a certainty is the best to put behind flowering plants when the pots stand on green cloth, or dark grey if the pots are on brown boards or mother earth. In front of the plant stage a space of twelve feet wide in gravel, makes up the rest under the cover of the arcade.

"The first twenty-four yards were of huge Ferns; then two rows of Rhododendrons, and seventeen yards of Heaths; then six yards of fine-leaved plants, and sixty-nine bouncing steps of Pelargoniums, which brought us on to the west end of the conservatory. Along the west end, the front, and across the east end of the conservatory, is a narrow shelf holding one row of large plants, or two rows of middlings, and three rows of comfortable plants, not small, nor large, nor middling. One hundred and fifteen yards of that stage were devoted to plants, the rest to doorways and other ways. The whole of these one hundred and fifteen yards might be said to be filled with new plants, rare plants, or fancy novelties of some degree. Here the Messrs. Veitch exhibited some of their rarest gems, and they were many and most abundant. Mr. Standish stood across the east end with that collection of Japan rarities just mentioned, consisting of from forty to fifty specimens. Then the two firms of Hendersons, the Pine Apple and the Wellington heroes, with all the fancy of their respective firms. Then Mr. Turner and Mr. Ivery with new Azaleas. Then Milne, Arnott & Co., with their new Gloxinias, and three new rivals in the Messrs. Bull, Linden, and Verschaffelt; and, last of all, and biggest of all the rest, Mr. Warner's

'Good Gracious' Lælia purpurea, and another which he calls after Mr. Day, who first bloomed it, Lælia purpurea Dayii. But I shall have them all in detail before I end.

"Along the back of the conservatory stood a large portion of the vast assemblage of variegated Begonias, the whole of the Orchids, and of the specimen and collection of Roses, the new ones being on the front stage, and all these took up seventy yards of very wide stages, in three easy steps. Within the walk or front passage of the conservatory was a double stand for all the collections of stove and greenhouse plants, and for Azaleas, some Begonias, and for two large collections of Ferns—that of Mr. Williams, of the Paradise Nursery, being the best ever exhibited. He ought to write a book on them, as the one he wrote on Orchids, if only to tell how to pack and unpack for exhibition. Of these double stages there were thirty-five yards, leaving a gravelled space eighteen feet or twenty feet wide between them and the back stage along the very back. In the very centre was a large circular stand cutting the scene in two—a wrong principle. Right and left of that circle—the last circumference of protection for Roses—stood a single file of all sorts and degrees of Wardian Cases, and miniature drawing-room greenhouses, stoves, and ferneries. Then out of the house, and into the east arcade, where the fruit was, Mr. Noble's, of Bagshot, beautiful Rhododendrons; then eighty-nine yards of the largest and finest variegated and fine-leaved plants in the world, under pot and tub culture, the like was never before seen; twelve yards British Ferns, six yards tall Cacti, six ditto Melocacti, and other dwarfs of the prickly races, four yards or five yards of Calceolarias, six yards of seedling Pelargoniums, and others on a double stage, two yards Amaryllids, four yards with Mr. Williams' hardy variegated plants, and six yards of Mr. Salter's ditto, twelve yards of cut Roses from Mr. William Paul and Messrs. Lane & Son, and many seedling novelties, among which a dwarf dark purple Nasturtium-looking Tropæolum, in the style of the Tom Thumbs, promised to be a first-rate and the first good bedder of that race. Mr. Smith had his new bedding Calceolaria canariensis there as the best of that brood. The single striped and double Petunias were very beautiful; one single light with red stripes, from Mr. Ferguson, of Stowe, was most striking, as were the pot Pansies from Messrs. Downie & Laird, and from Mr. Bragg. Mr. Dean, of Shipley, Bradford, had two boards of his Belgian Pansies, in cut blooms, very fine, and among them his large, light Princess Alice, to which we gave a handsome lift at the Floral Committee the week before.

"The Fruit double stand was eighteen yards long. The bunches of the Buckland Sweetwater weighed six pounds four ounces, and three of the Black Prince eight pounds four ounces, all from Mr. Hill, of Keele Hall. Thirty-one or two Pine Apples, twenty pots of Grapes, and two pairs of pot Grapes trained archways on the back wall, with twenty-nine bunches of Black Grapes from Mr. Saunders, gardener to Sir H. Meux, were set off that way better than any I ever

saw exhibited. Her young Grace of Sutherland kept up the old charter in competing with Her Majesty with a full collection of eight dishes of splendid fruit. Mr. Henderson came out again in the old Fleming style; and Mr. Ingram was worthy of his name, and to give Her Majesty the first place. He had Black Hamburgh and Muscat Grapes, Smooth Cayenne Pine—a fine fruit, Peaches and Nectarines, British Queen and Prince Arthur Strawberries, May Duke Cherries, and Beechwood Melon. Mr. Henderson mounted Black Hamburgh and Black Trentham Grapes (the bloom on the latter inimitable,) Smooth Cayenne Pine, Peaches, Nectarines, Black Circassian Cherries, and two dishes of Melons—the Trentham Hybrid White Flesh and the Trentham Hybrid Green Flesh, both of exquisite flavor; but I was round before the Judges, and did not see the prizes of any of the fruit.

"But I must give you some idea of the new plants from Japan, and all along the front stage; for about collections, if you read over again the reports of the May shows for the last seven years, and suppose you are reading of this Show, you will not be two plants behind the time you are reading. To begin at the beginning I must take the northeast corner of the house, and there were six huge pot-baskets with Acœctochili under great glasses from Messrs. Veitch, and by the side of them three small plants of the purple Maple of Japan, Acer japonica; and from a large specimen of it from the Pine Apple Place Nursery, one could accept it as a rival to our purple Beech. Then three Libocedrus tetragona—the true source of the Alerse wood, of which you heard so much from the Spanish contribution to the first Crystal Palace in 1851. It is as upright as a dart, and of a lively green, and seemingly a very fast grower. Three plants of a new Silver Fir from Vancouver's Island; a very curious little Thuja; and three of a most curious Cryptomeria japonica—more like a Retinospora than a Cryptomeria, and an evergreen, a bedding plant with little green about it, but the most beautifully variegated plant, as like the variegated Periwinkle as you can draw it, and all the time a new Euonymus. Get a stock of this shrub, and all you will have to do to edge the ribbon after the planting is finished is to put in a row of cuttings of this very thing; every one of them will root so, and while they are doing that and for the rest of the season you have the very best variegated edging I can think of. The same plants will do half a dozen years, as the kind seems quite a dwarf. This, and Mr. Bull's Agathæa or variegated Cineraria amelloides, and Mr. Salter's Veronica chamædrys variegata are three gems, take my word for it. How most strange it seems to call the dear old Cineraria amelloides, now termed variegated, by its true name, while the wrong old name would alone sell a thousand of it ere people can call to memory the new name—Agathæa, and then not know if it is the fashionable pronounciation! How often have I asserted that it is the best of all plants to keep in pots in readiness to fill up in a hurry, as all the soil can be shaken from the roots in the hottest day in July or August, and one watering after planting it so is sufficient to keep it unflagging.

"After these stood the forty or fifty plants arrived from Japan on the previous Friday. What a fortunate man Mr. Fortune has been, that he can send from the ends of the earth plants fit for the present exhibition. The Parasol Pine took my eye first—that is Sciadopitys verticillata; a fine variegated Gordonia sp., a variegated Eurya sp., a variegated Osmanthus angustifolius, like a genteel form of a silvery holly. The dwarf variegated Bamboo in bunches, a new evergreen Berberis, several kinds of variegated Camellias, a variegated Tea plant, Thea viridis, two or three kinds of variegated Podocarpus, a variegated Daphne, ditto Eleagnus, a green and a variegated Retinospora something, variegated Illicium, golden Podocarpus, Thujopsis dolabrata variegata—the finest variegated plant of the creation—nothing on earth can beat this for gemiferous looks; Aucuba japonica fœmina to cross and get seeds from at last, and a beautiful mate for the 'Magnolia spottifolia' of Mr. Walter Dickson, and ever so many more of the same selections of garden gems which the Japanese value as much as we do our variegated Geraniums and other soft-wooded plants.

"Next to these stood three more plants from the Messrs. Jackson, of Kingston—a fine-looking Quercus bambusæfolia, a long soft-leaved Buxus from Nepal, and Juniperus drupacea, a strong upright grower. Then some extraordinary queer thing growing in jointed flaps against a deal board, from Mr. Williams, of the Paradise Nursery, said to be from Manilla.

"Then a collection of thirty-two kinds of most rare and ornamental plants from the Messrs. Veitch, consisting of Selaginella atro-viridis and Lobbii, also conferta and caulescens—as much like fine Ferns as Lycopods; Lycopodium phlegmana—a tree Lycopod, Lomaria falcata—a miniature tree Fern, exquisite and Leptopteris superba—a filmy Fern under a glass cap; Sonerilas, Medullarium, Physurus, Sarracenas of many sorts, Campylobotrys, Gardenia radicans variegata—a Japanese of course, Ouvirandra, the water-lace leaf of Madagascar, the Australian Pitcher-plant, Cephalotus folicularis, which stood out several winters in Cornwall with the late Sir William Molesworth, a Venus' fly-trap Dionæa—fine-looking and fine to the touch, Maranta ornata, with long upright footstalks to the handsome leaves, Caladium Veitchi, of the shine of Alocasia, and the Adelaster albivenis lately before the Floral Committee.

"After these another collection from the same exotic growers—say Selaginella Wallichii, a mimosa-leaf-like plant, a love of a thing; Caladiums, Pitcherp lants, a fine Pteris argyræa, and cretica albo-lineata: Caladium Bellemeyi done to a T, also the argyrites; Colocasia edulis variegata, a splendid thing; and the Alocasia metallica with eight leaves, colored as it is in 'The Illustrated Bouquet,' and not of that dark brown dusty out-of-the-world looks you sometimes meet with where the plant is starved with cold and wet.

"Mr. Jackson followed up from Kingston with Lonchitis aurita, fine; Colocasia antiquorum, variegated and very fine; Asplenium filix-fœmina, a most delicate frizzly Fern; and a good Pteris cretica albo-lineata—the variegated

Fern, which I am just going to compete with my variegated Nosegay out of doors.

"Mr. Bull next, with a prickly-leaved Hippomane, like some Brexia, of which a huge plant was in a distant collection; Campylobotrys of sorts; Theophrastas ditto; a large Lomaria heteromorpha; Araucaria Cunninghamii, new to me, and seems a robust thing; young Palms of sorts and other sorts of that run; and six plants of Arthrotaxus Donnii; and a fine lot of Agathæa cœlestis, or the variegated Cineraria amelloides, getting better and better as the season goes on. Mr. Bull ought to make a fortune out of that one plant—the most useful plant and the easiest to grow and to keep you can think of.

"Then a fine lot of upright Gloxinias from the Messrs. Smith, of Dulwich, and from Messrs. Milne, Arnott & Co.; then a stumpy tree Fern, Todea pellucida, from Mr. Standish; then a large collection from Mr. Henderson, of Pine Apple Place Nursery, including the aforesaid large plant of Purple Maple, Acer japonica, a beautiful variegated Yucca filamentosa, and the bright silvery-leaved Acer negundo, and a variegated Cobœa scandens. Then assortments of the newest Roses, of which Evêque de Nimes was very choice, and the next two, Madame Bonnaire (H. P.) and Triomphe de Lyon (H. P.)

"The collection from the Wellington Road Nursery succeeded; and here were the very fancy Petunias, double and single, plain and spotted, edged and striped, and of the liveliest shades of color. What really nice things there are now in this one family! The very elegant basket plant, Convolvulus mauritanicus, with the light blue of the finest campanula, a love of a plant, just a lady's gem of a thing; Caladiums in all their spots; Begonias, ditto; Chamæcyparis sphæroidea a new fine Conifer; Blandfordia nobilis, in good bloom; the Bellemeyi Caladium particularly good; Lady Emily Peel, the best of the Shrubland Rose breed of Petunias; Sphærostema marmorata, a fine climber; Amaryllids and several others of the improved seedlings of garden plants; then a huge plant of Orchis foliosa, with sixteen flower-spikes, from Mr. Williams aforesaid; and a large Dendrobium nobile, from Mr. Hedge, Norwich Road, Ipswich, as you go out to Shrubland Park. Then the grand monarch of all this grandeur—the grand Lælia purpurea with thirty-six blooms on it, from Mr. Warner, who is one of our Committee, and was as deep in the procession as W is low in the alphabet, for we all went in for it, dictionary fashion. By it was the variety called after Mr. Day, who first bloomed it, and also a fine variety of Cattleya, which he calls after Mr. Fairrie, of Liverpool, for his blooming the kind for the first time. But at this point every body I ever knew seemed to meet and wished to have a chat, so I may be wrong in Days and Fairries; but I threw away my book and ran out of the house, and I must find it before I go further."

MOSS BASKETS AGAIN.

BY WILLIAM CARMIENCKE.

The smoke which surrounded the "Close Observer" while he wrote the former article has gradually disappeared, and he finds himself placed between two fires. In the distance he discerns the "Second Barnum," advancing from the northeast, ready to give him a broadside from his guns, thinking to silence Paul Pry at once; he is joined by Dr. Norris, of Delaware, who attacks me in the rear; however, I think the Doctor, after a satisfactory explanation from my side, will draw back from the battle, and leave the "Second Barnum" and the horticultural St. Thomas to settle the question, while he remains neutral.

From the statement which the "Second Barnum" makes in the February number of the Horticulturist, I find it a necessity to take up the pen again, not only to justify myself before the public, but also before Doctor Norris and the Editor of the Horticulturist, as the last-named gentleman says: Let us have light! If the "Second Barnum" had known beforehand who the "Close Observer" was, I think he would have made a very different explanation. I would have given my name if it had been called for, but as the Second Barnum learned it from one of his neighbors, I was saved the trouble of doing so; still I wish to show the public that I am not afraid of giving my name, and they will find it at the head of this article. Of course the "Second Barnum" would like to know the reason why I exposed him. Dr. Norris thinks jealousy is the cause of it; I am glad to say that such is not the case.

Some men show a great desire to get their names known, and we sometimes find that when they attempt to do so, they rush forward, looking neither to the right nor left, until they stand upon the brim of an abyss, which threatens to ingulf them, and why? It is an old saying: Look before you leap. This rule bids us not to enter upon any enterprise before we have taken into consideration, and know the probability of gaining the point towards which we direct our course. The only source by which we are able to arrive at the truth, is by a careful meditation upon the subject which occupies our thoughts, and through experiments made with judgment. The "Second Barnum" should have taken this course before he made his new invention publicly known; it remains at present an hypothesis to him whether he is able to bring grapes to maturity in his Patent Moss Baskets—that is, a basket filled with moss, in which is a cup, containing sand, charcoal, and water, but no soil, which Dr. Norris would have found to be the case if he had examined the baskets. I know, however, the Doctor's stay was very short, as I was present at the time; and he did not examine the baskets very closely. Both my antagonists say that all the *trees in pots are grown in soil;* if they would read my article through with some attention, they would see that I did not mention any thing about trees in pots; I exclusively referred to the

Patent Moss Baskets. The trees in pots are all grown in soil, and I must confirm Dr. Norris's statement, that the moss was placed there as a mulching.

The question which must be answered is this: Was it a deception? The "Second Barnum" in his statement neither maintains nor contradicts my article; it seems he wishes to say that all his trees are grown in soil. Can he deny that the vine in *this basket* was planted in any thing but moss? that it contained a cup filled with water, sand, and charcoal, and that this is his patent?

He says: "What was done once can be done again." I do not doubt that where bunches of grapes were tied on once they may be tied on again. Both myself and other gardeners know for certain that there were no vines in the houses able to bear fruit last year, and as I had charge of the houses, and watered all the plants and trees, the baskets included, it is a mystery to me how ripe grapes could grow on this basket in *two hours*. I hope the "Second Barnum" will make a more satisfactory statement. Yet, when the basket is brought to the exhibition, with the ripe grapes on, grown naturally, and the judges have made a thorough examination of the Patent Moss Basket, I feel willing to give the "Second Barnum" $10 premium for the first bunch of grapes produced this way, equal in size and flavor to any taken from a pot vine, grown in soil. If this can not be done, where is the benefit of growing them in those baskets?

My reason for writing the last article, "A Second Barnum," was to defend gardening. It is generally considered an honest trade, and I think all *humbug* should be kept without its boundaries. Suppose this should be allowed to go unnoticed, what would be the consequences? If, for instance, some gentleman, some Mr. X., had seen this basket with the fruit on, and returned home, after being told that the grapes were grown on the vine. Having a green-house of his own, and keeping a gardener, he buys a basket, and receives directions from the "Second Barnum" how to grow the vine in it—after a fruitless attempt, the gardener sees it can not be done, *because he does not like to do what can be done again*. Still, Mr. X. insists that he saw the grapes grown in this way, and he will consider his own gardener very unskilful. This would not only tend to injure practical gardeners; it would at the same time be a cultivation contrary to the laws of vegetation. Persons having only a superficial knowledge of vegetable life, must at one glance see that such cultivation has no foundation; while to those not familiar with the cultivation of plants it would prove a deception. Is it possible that those grapes were grown in that basket? is a question directed to me not once, but many times. I think that I showed in my former article what it was.

The "Second Barnum" says, my strictures are an insult to hundreds of people who have seen what I say can not be done. I am, however, able to bring forward witnesses to confirm my statement about the basket. Dr. Norris thinks that I would question his veracity. I feel sorry that the Doctor should look upon those remarks about his article in this light; it was far from my thoughts to intimate any thing like this. I know certainly that Dr. Norris would not practice a

deception; he was not there at the time the grapes were on the basket, and could not allude to them. The trees in the small baskets—not the patent basket—were all planted in *moss*, no soil and without any cup filled with charcoal, etc.; with the exception of *one tree*, namely, the pear I spoke about, which had been grown in a pot beforehand, from which it was replanted in the basket without disturbing the ball of earth. This accounts for the pear coming to maturity.

The Doctor says my sneers about the turtles and frogs are unnoticed, because others saw them. In regard to the first named, the turtle, there being only *one*, I must say that it came in through the front lights, and I placed it between the pear pots myself. The frogs came in the houses the same way, but neither of them was placed there to devour numerous insects, the last named not being plentiful enough to satisfy their hunger.

I hope these explanations will prove satisfactory to the Doctor, and that he will not rank me among those who are jealous.

[In justice to Mr. Carmiencke, we must say that his article has been on hand some time. We desired, before printing it, to see these Moss Baskets, in order that we might be able to give this discussion a right direction. We have at last seen one of them, and find it quite a different thing from what we supposed. The basket, as well as some fruit trees in pots, was in New York, on its way to Washington as a present to Mrs. Lincoln. We should have been glad if Mr. Chamberlin had been present, that our examination might have been more minute. The wire basket was nearly three feet in diameter, and had a grape vine growing in it. The moss on the outside was in its natural condition; the filling in was broken up, and resembled somewhat vegetable mould; this, under the operation of heat and moisture, slowly decays, and, with the carbon and ammonia from the charcoal and water, furnishes food to the roots of the vine; but, of course, the process of nutrition, under such circumstances, goes on imperfectly. The vine was neatly trained around the basket; the growth was not very strong, and the bunches of fruit were not very large, but the whole thing was there. It can not, therefore, be doubted that grapes can be grown and ripened in a basket of moss prepared in this way, but we are inclined to the belief, that in size, flavor, and productiveness they will be found inferior to those grown in a good soil. They are curious and ornamental, but, of course, will not be adopted where profit forms an item of grape culture. As ornaments for the conservatory and dinner table they are very pretty. We believe Mr. Chamberlin claims no more for them. The process, instead of being what we supposed, is very much the same as that practiced for many years by Mr. McNab, a very intelligent gardener of Scotland, and superintendent of the garden of the Caledonian Horticultural Society.

The following extract from an English publication will justify Mr. Chamberlin in his position, as well as show what has been done for a dozen years or more in

growing plants in moss: "Various experiments in growing stove and greenhouse plants entirely without soil about their roots, have been carried on for some years in the garden of the Caledonian Horticultural Society, by Mr. J. McNab, the superintendent. In those experiments, the plan generally adopted has been to shake all the soil from among the roots, which are enveloped in moss, and the plants are then suspended from the roof of the house, the moss—and consequently the roots—being preserved in a moist state by means of worsted siphons connected with vials, or vessels of water suspended near the plants. Success has generally attended these experiments, the plants growing well, and also producing their blossoms. Some of these plants were produced at a meeting of the Society held in March, 1848, and among them were two plants of Camellias, in bloom, which had been subjected to the above treatment since July, 1847. There was also a very fine specimen of the Strelitzia reginæ, which had been grown on this plan for the last three years, and had never failed, under this mode of treatment, to produce its gorgeous flowers twice in the course of each year, in spring and in autumn, during the months of February and March, and also during August and September. In the ordinary mode of culture it is not easy to induce this plant to produce its blossoms, even once in every year."

This, we think, settles the fact that plants may in this way be grown in moss, though it is no doubt more ornamental than useful. Cuttings are known to root readily and freely in powdered moss, and so they will in charcoal dust; but we do not believe that any substitute for a good soil has yet been found for growing and fruiting plants in. This whole matter may be briefly summed up thus: the one party is entitled to all he claims for the process on the score of ornament, while to the other may be conceded the point of utility.—Ed.]

A DAY'S RIDE.

BY THE EDITOR.

Having some business up the river, and feeling the need of recreation, we planned with Mr. Downing a day's ride, and give the reader the result, in order that he may know how many beautiful things can be seen in so brief a time. It would be desirable, of course, to take more time, and we would hardly advise an enthusiast to undertake it, unless he has the ability to take in and digest whole acres of beautiful objects at a single glance. The great drawback is, an almost irresistible desire to linger by the way, and indulge the sense of enjoyment. All the places visited were large, embracing from two hundred to seven hundred acres, and stopping to examine individual objects of interest was quite impossible.

We left New York in the *Tom Powell* on Thursday afternoon, August 1st, and remained in Newburgh over night with Mr. Downing. The sail from the city to Newburgh is full of interest, bringing in review many fine country seats

perched on the hillsides, besides some of the grandest scenery on the Hudson. Newburgh Bay, inclosed as it were in the arms of the majestic Highlands, is unsurpassed for beauty, and one never tires of admiring it. But this *en passant*, for our journey proper began on Friday morning, when, with Mr. Downing and Mr. Woodward, we crossed to Fishkill to take the early express train, and were disappointed in not finding on board some friends from New York. We proceeded on our way to Tivoli, our first stopping place. The day was intensely hot, the heat of the cars being almost insufferable. Our only refreshment was an occasional glimpse at the river, the grand hills, and now and then a pretty village seated under their brows. Tivoli is nearly opposite the Catskill Mountains, and near their summit could be seen the Mountain House, the distance diminishing its size to that of a little cot. On a high table land between the Catskills and the Hudson is the village of Saugerties, with its church spires shooting up against the dark back ground of the mountains. From its position, we thought it one of the most beautiful villages we had ever seen.

From Tivoli, we went four miles to Annandale, the country seat of Mr. Bard, consisting of some 210 acres. The entrance is through a grand avenue of old Pines. We pass on the left a fine water tower, which supplies the whole place. Mr. Alcutt, whom we found very attentive and polite, presides here. The place is in a state of improvement. Fronting the road, Mr. Bard has built another church, the first having been destroyed; but the steeple has not been elevated yet; for we saw it in a lot about two hundred yards off, with the bell in it, where for the present it performs its duty of calling the villagers to church: more lowly in its notions than many belles we could name. The dwelling is also being altered and repaired. A boundary drive of considerable length is being laid out, and will embrace in its course most of the fine points of the place. The fruit and vegetable garden is new, and well stocked. The Pears are partly grown as espaliers, and were making a good growth, but needed a little pinching. The Tomatoes were grown on a trellis, a plan that we like much. Melons were abundant and ripe: we found them very good and refreshing. The graperies are well kept, and the fruit such as to do Mr. Alcutt great credit; the Hamburghs and Muscats were beautifully ripened, and in all respects first rate. From the graperies we passed to the lawn. This has recently been enlarged and partly regraded. It is in good condition, has a fine face, is kept nicely cut, and has many fine trees on it. There are several fine vistas here, embracing views of great beauty, taking in the Catskills and surrounding mountains, long stretches of river, a pretty little island, and groups of wood. Fleecy clouds were floating through the air, and their shadows passed over the mountains like phantoms of another world. The scene was impressive, and we left it with regret; but we had no time to linger, and pursued our way over the knolls and through the woods to the water-fall and dell from which the place takes its name. On the way we passed a "happy family," composed of sheep, chickens, and a goose.

Then we came to a pretty waterfall and a little lake of irregular outline, surrounded chiefly with evergreens, the deciduous trees having been mostly cut out. Passing down a narrow, well-wooded foot path, with occasional glimpses of water, we at last reached the foot of the dell, and came in full sight of the cascades, the water leaping joyously over and around the rocks, all foaming with gladness, and each drop seeming a little elfin sprite. If not grand, the scene was very beautiful. The little river is here crossed by a pretty rustic bridge, with a pavilion in the middle, commanding a fine view of the cascades and a reach of the Hudson in the opposite direction. The place was cool and refreshing; tired and sweltering with the heat, we all sat down for a moment's rest and enjoyment. We love water, especially water in motion, with an inexpressible fondness; and as we passed on, we paused for a moment at the end of the bridge to take a last look at the cascades, and then went on our way repeating Tennyson's noble line,

"A thing of beauty is a joy forever."

Toiling up the hill, we found ourselves, almost without knowing it, on Montgomery Place, the residence of Mrs. Barton. This has been so often described, that it seems almost unnecessary to say a word about it. Its fame is known every where. It is, no doubt, one of the most finished places in the country. It has age; the trees and shrubs have developed all their grand proportions, and impress one with a feeling of reverence. The grouping is well done, and worthy of study. There are many individual specimens of great beauty and interest. The lawn is extensive and well kept. The views are possessed of much grandeur, but might be improved, were it not almost a sacrilege to fell such noble trees. The walks and drives are well made and admirably kept. The Pinetum, though not as large as we could wish, is a very interesting feature. At the conservatory we found Alexander, and *locum tenens* of the place. Alexander was born and brought up here. He is very polite and attentive, and takes a good deal of pride, as well he may, in pointing out the objects of interest. The conservatory is a ridge and furrow house of large dimensions, and was filled with Fuchsias, Gloxinias, Achimenes, Hanging Baskets, and variegated leafed plants in great variety. All were well grown, and the house was gay with flowers. The flower garden is a fine piece of work, but the arrangement of the bedding plants was faulty. The plants themselves, however, were mostly in good condition, and the whole garden clean and tidy. Perhaps the finest trees on Montgomery Place are the Elms; but we must not particularize; we have no time for that now. A person should hardly visit Montgomery Place unless he can spend a day there, and repeat his visit often: a mere glance at so many grand things only serves to bewilder one. But this was all we could do, and so we passed along to "Messina," the home of Mr. Aspinwall.

Messina seems like a comparatively new place, the improvements being still under way. The fruit and vegetable garden occupies a large space. Pipes are

being laid through the principal walks to supply the garden with water. The drains and walks will be costly affairs. The natural growth on the place has been well used, and some considerable planting done around the dwelling, on the northwest corner of which stands a large and stately Pine, remarkable for its age. The lawn is hardly yet finished. The views from it are very fine, resembling somewhat those at Montgomery Place. Mr. Kimber, the gardener, called our attention to a Pine thirty-five feet high and fifteen inches in diameter, which he transplanted last winter with a ball of earth. The removal has been entirely successful. A row of fig trees were in fine condition, and well laden with fruit. There is but one small grapery, but no doubt there will be more; there should also, on a place like this, be at least one good forcing house. But all these things are the work of time. There was more to be seen, but time was pressing, and Mr. Downing, and, in fact, all of us, were suffering from fatigue and the overpowering heat, and were fain to seek the shelter of the house for a little rest. Being refreshed, we again took to our carriage, which we had sent around by the road from "Annandale," while we pursued our sight-seeing on foot. Up to this point Mr. Alcutt had with much kindness accompanied us, and saved us many steps.

Our next point was Rhinebeck, distant seven miles. With a good road, the grand mountains, and occasional glimpses of the river, the ride was a very pleasant one. We noticed by the way that many of the farmers were still making hay. Our destination at Rhinebeck was "Ellerslie," the princely residence of the Hon. William Kelly. We were welcomed at the door by Mr. Kelly himself, who was fortunately at home; and very soon we had the pleasure of taking by the hand again the kind hostess herself, and then—we might as well tell it—an introduction to what Mr. Kelly called a "whole bevy of girls." We felt like sitting down to enjoy the thing, but the carriage was at the door, and so we started for a ride around the place. On going down the drive to the road we had an opportunity of examining a very happy example of thinning out a natural wood. The subject had been carefully studied, and executed in a skillful manner. We first stopped to look at the cattle. Mr. Kelly has a splendid herd of Short Horns, and among them some of the best animals in the country. Hiawatha is a noble bull, and there are others in the herd not less so. The cattle barn is very capacious, and a model in its arrangements; every thing is tidy and well kept. Last year we took a fancy for a heifer; she was a gentle beast, good tempered, and almost familiar. This year we took a fancy for a young bull; but he was an ugly wretch, not in the least disposed to be friendly; in fact, to keep clear of his heels we had to take to our own.

After examining the stables and admiring the cattle, we continued our ride following the boundaries of the estate, (some seven hundred acres,) noting the beautiful changes in the landscape as we passed, and finally entered the grounds again at the rear entrance. Here we have a long straight drive till we enter the

pleasure grounds again. This drive is lined on each side with trees, and the scenery passed is varied and beautiful. Here we have a wide expanse of well-kept meadows, with no fences to obstruct the view; there a fine clump of trees; next some specimen tree; again, a well-wooded knoll; then a beautiful pond with its little pleasure boat; and after this the woods grow more massive, and the road begins to wind as we approach the house. Much as we enjoyed the drive along this road, we have some fault to find with it; indeed, it is almost the only faulty thing about the place. It is only the back entrance to the place, but still it is much too fine a drive not to have its capabilities fully developed. Let us go back to the gate again. From this point for a long distance, the ground is level and the road straight; this is right enough; but here begins a succession of knolls, and the road goes straight up and down over them, and to this we object, on the score both of pleasure and beauty. It is trying to the horses, and produces an unpleasant sensation in the rider. It seems to us that an opportunity has been lost here of making a series of the most beautiful curves, enhancing the interest of the scene, and prolonging the pleasure of the drive. With this single criticism, let us continue our ride. As we approach the house the trees and shrubbery become more imposing, and the grounds highly finished, being a fitting introduction to so hospitable an abode.

Leaving the carriage at the door, let us, in the brief space that remains, take a ramble through the grounds surrounding the dwelling. Almost the first thing we see, on a knoll at the end of an avenue fronting the house, is a beautiful Grecian temple, the approach to which is lined on each side with beds of brilliant flowers. The effect is exceedingly pretty. The next thing that arrests the attention is the splendid lawn, very much improved since our last visit, and even in this dry time as green as an emerald; kept constantly clipped and rolled, it seems to the tread like a piece of soft velvet. On that eminence in front of us is the large and beautiful conservatory. Here, at the head of the steps, we have a noble pair of Golden Arbor Vitæ, and the Washingtonia or Wellingtonia six feet high; here is a beautiful round-headed Laurustinus, and stately Yews, and slender Junipers, and many other fine things which we have no time to examine. But stop a moment, and look around at all these grand masses of trees, and the splendid Spruces, and Firs, and Pines, and Elms, and other evergreen and deciduous trees, singly and in groups. Let us now pass through the conservatory. Here we have Fuchsias, and Gloxinias, and Achimenes, and Ixoras, and Jasmines, and Begonias, and Caladiums, and many other beautiful and rare things. Here are three more houses, but we can only look in at the door. In this we have Nepenthes, and Begonias, Caladiums, Marantas, and other variegated leafed plants. In the next we have a collection of Orchids which would gladden the heart of our friend, Mayor Van Voorst. In the last, more Orchids, variegated leafed plants, and other choice things. A few steps further, and we have the flower garden proper, with its ribbon borders and beds cut in the lawn, and very skill.

fully treated. All these things, under the skillful management of Mr. Bennett, are admirably kept.

Let us now hasten to the house, take a seat on the piazza, and study the landscape. This is no doubt the time and the place to take one's last impressions of Ellerslie. The sun is just passing behind the western hills, and the trees cast their dark and lengthened shadows on the lawn. There is no fence or boundary line to obstruct the view. On the right and in front of us the mountains tower up and away, till in the far distance they seem like huge masses of blue mist. The river beneath us, inclosed by the hills, seems like a large and beautiful lake, its sheeny bosom here and there studded with a passing sail. On the left the hills gradually pass away into table-land, which becomes lost in the distance. In the middle ground there is a wide expanse of beautiful rolling lawn, dotted here and there with well-disposed masses of trees, with an occasional group of small dimensions, and here and there individual specimens unshorn of their glory; and as if to make the picture complete, the "lowing kine" are still grazing in the fields. It seems to us that we have here all the elements which go to make a perfect picture; nothing seems to be wanting.

Looking at the setting sun and the beautiful landscape, the spirit of repose which was settling over the whole scene seemed to take possession of us, and once again as of old we felt like yielding to its inspiration; but a gentle hand tapped us on the shoulder, and tea was announced. We had forgotten how rapidly the time had fled, and the journey still before us. After tea, and some fine music by the ladies, we bade adieu to our kind friends, and took the 8 o'clock train, Mr. Downing for Newburgh, and Mr. Woodward and ourself for Poughkeepsie, where we had planned another day's ride.

And thus ended our day's sight-seeing. We had worked hard, but had seen a great deal, and were richly repaid, our only regret being that we could not linger longer and see more. Our next "ride" will take us from Poughkeepsie down to Fishkill and Newburgh.

A PLATE OF STRAWBERRIES.

(See Frontispiece.)

We present as a frontispiece this month a plate of Strawberries, old and rather late. Of most of those figured little need be said; some have already found their place among the rejected. Prince's Imperial Scarlet is a good sized, obtuse, cone-shaped berry, firm fleshed, juicy, and pleasant flavored. Jessie Read is of good size, cone-shaped, rather soft, medium flavor. Ladies' Pine is of medium size, conical, sweet, and very high flavored; a good variety for the garden. Read's Black Pine is of good size, conical, and well flavored. Delices d'Automne is of fair size, conical, high flavor, but unfitted for our climate. Haarlem Orange

is not worth growing. Kitley's Goliath is a large coxcomb variety, but unfitted for our climate. McAvoy's Extra Red is of good size, roundish, pretty, but quite acid; it is, however, as we stated several years ago, one of the best berries for preserving. Compte de Flandre is a large cone-shaped berry of good flavor, but does not do very well here. Read's No. 1 is a good sized berry, conical, flattened at apex, and of good flavor.

RURAL COMFORTS.

BY THE HERMIT OF HOLLYBUSH.

Among the most enthusiastical lovers of Horticulture will be found a numerous class, who have selected some little sunny spot near a large town or city, built a cottage, and surrounded it with rural delights, that had long floated in their day dreams during their weary hours of toil and business, immured in the suffocating atmosphere of brick and stone obstructions; walled in from all the beauties a wise Creator has spread out for our health and enjoyment. These are the caged souls, who truly appreciate and delight in the cultivation of the objects treated of in your valuable periodical. There are many new pleasures fresh in Nature's store, to the satiated, and it may be added the vitiated taste of the weary denizen of a city. Cheerful and active life lends much to the charms of fruit and flower. So say the ladies who visit my Hermitage while partaking thereof, and viewing my pigeons, poultry, rabbits, goats, birds, bees, &c., a little world of health and productive comforts, ever new and interesting, the solid basement in the construction of the true "Otium cum dignitate" of life. The Aviary is an appropriate accompaniment to the green-house, vinery, hot-house, apiary, etc., and a dove cot in the garden, one of the most useful and pleasing of objects. It may be made constantly to supply a quantity of fresh provision, particularly valuable at the season when animal food is so difficult to preserve or obtain in any inviting condition; then a few minutes suffice to prepare a dainty meal for an unexpected guest; and who will decline the appetizing allurements of a cold pigeon pie, a broil, or a stew? Every good housewife knows the value of feathers. The manure will be carefully preserved by the gardener as the most powerful guano for many choice plants, onions, melons, etc., while the young olive branches, and the aged grandsire, will be alike diverted from their little aches and cares, watching the lively commonwealth in their amusing antics, flying, building, laying, hatching, feeding, etc., while some of the carrier varieties might be put in requisition by young miss, to convey, ere the perfume wanes, the important nothing of some "*Billet doux.*"

But papa will not read this without a *Pshaw!* and perhaps a surmise that the Hermit is not the venerable anchorite he professes himself, and will therefore not heed the earnest appeal to raise a dove cot in his garden, which is the object of

this article; so to continue. The great variety of form, color, and peculiarities of Fancy Pigeons, have always secured to them a large share of attention as amusing pets, from the remotest antiquity. Varro, Columella, Cato, and others, give directions for their management, showing the estimation in which they were then held. Pliny notes the value of a pair among the Romans, of some choice breed, probably carriers, as worth four hundred denarii, (about $60.) A variety of this sort is still used by our pilots, coasting service, news boats, forts, light-houses, as messengers, and for racing and flying matches against time and distance, with as much interest and excitement, if not involving such ruinous sums as the performances on the race-course. Germantown, near Philadelphia, and Williamsburgh, near New York, have long been famous for the numerous studs of these birds, to be seen on the wing when the weather and opportunity offer for the diversion. Their tumbling antics, as they circle aloft in the air by the hour together, or return with the welcome letter or color signal, form an excitement inconceivable to the uninitiated in the fancy. From many a loft in the close cities of Europe, as in our own, the hard worked mechanics may be seen at early dawn enjoying all of the fresh air he daily gets, out upon the house tops, releasing a few couple of high fliers to take their rapid sail into the ethereal blue, watching their uncontrolled and pathless way, his lungs and thoughts expand, and he forgets the world below and feels himself more free.

Collections of several thousand birds, containing many curious and valuable varieties, are to be found in some of the dove cots of our merchant princes. Others select one or two sorts, and breed them with such care that the birds will fetch from five to ten dollars each, such as a rich colored Almond Tumbler, with the swallow martin beak; or a Carrier with wattle round its eye at least an inch in diameter, and head and beak three inches. A Pouter, which is now the bird in fashion, must be eighteen inches long, and pout or extend his air balloon above his crop to the circumference of eighteen inches. But *Ames' Pigeon Fancier* is the book to consult for all the properties required by the clubs. Much amusing and useful information will also be found of all the known varieties.

Most sorts will handsomely repay the little care and food required by these prolific birds, who monthly complete the task of laying, hatching, and rearing to maturity a pair of their offspring, who will in turn commence to mate and lay when five or six months old, thus producing from half a dozen pairs an incredible number in two or three years. Ill disposed persons have calumniated our pets as destructive vermin; Stillingfleet, the agricultural writer, for instance, who perhaps never owned one; certainly he was no fancier. On the contrary, we, who have seldom through life been without a great many, reject the slander, and declare them not only perfectly harmless, but valuable for frightening and driving off the multitude of little birds, who pilfer our cherries and fruit at such a fearful rate. As to scratching, they are incapable, and only when pressed by hunger will many kinds alight on the ground. The proper elevation of their house, and

a due supply of food and water within it, will secure safety from their foraging excursions of all kinds. Neither will they pick the fruit or plants, for green food they will not eat, except a trifling leaf or two of the red sorrel, eaten as medicine when improper food has made them sick. They naturally choose peas, rice, small corn, grain of all kinds, seeds of flax, hemp, and canary, wild turnip, and most weeds; so if, in the fall, they are permitted to become hungry, they will clear the seeds from every weed within reach, obviously to the great advantage of the slovenly farmer, who has so neglected his fence rows, or the gardener who will scratch over more beds than he can keep clean. For this purpose, and for the table, the common Blue Duffer, with black bars on its wings, the female generally of a darker blue and black called checkered, are the best suited, being hardy, fertile, and easily find their own living. Others will be chosen for ornament, flying purposes, etc.

There being upwards of thirty varieties of fancy pigeons frequently found in collections, it will be impossible to include their description within the limits of this article. The construction of the dove cot; management of stock, with many useful hints, must be deferred to a future number, and so we proceed with a description of the leading varieties, as they must appear when presented for competition at the poultry shows. One of the most valuable, and generally called the King of Pigeons, is the *Carrier*. This bird has been used as a messenger probably ever since Noah sent one from the Ark, and still continues where the electric wire is impracticable or unknown, and rapid communication essential. Its natural color is light gray blue, with black bars on wing and tail. Some are a glossy purplish black or dun; other colors are not esteemed full bred. They are rather larger than a common pigeon, and have a rich embossed protuberance of white flesh around the eye and nostril; it is supposed to be of use in their rapid flight. This should spread around the eye as large as a twenty-five cent piece, but it does not attain its full size for six or eight years, and some continue always increasing, although a Pigeon rarely attains its tenth year. The young squeaker will only have about the eighth of an inch. They are now worth from three to five dollars per pair in market. To train them, take the young from home a little further each time, until they will return several miles in as many minutes, from any direction; wind the message (on thin paper) round the leg, neatly tying it with thread: a small bag of thin stuff will be found most convenient to carry them in, as it is not requisite for them to see.

The *Fantail*, from its peculiar large spread tail, makes a very striking appearance on the buildings. Those of a pure white are preferred, and are generally the best birds; others have the shoulders of the wing black, blue, red, or yellow, and there are some all black, but being crosses to obtain the color, they are all usually inferior in their properties. The tail should have thirty-six feathers, well spread in three rows; extra birds have a fourth row; it is carried in the manner of the Turkey, touching with it the back part of its head. This bird must have

a long, swan-like neck, which it continually shakes in a singular manner. They are not good fliers, but are excellent breeders and nurses, when well supplied with food and water. It is said their odd looks and antics frighten away hawks.

The *Magpie* is of medium size; its head, crop, back, and tail of one uniform color; the remainder white: long red legs, pearl eye, and spindle beak. They are good fliers and breeders, and make a pretty flock.

The *Bald Pate* is a small Tumbler variety, noted for lofty flying, and performing summersaults in the air, and falling backwards as if suddenly shot. Their body must be of a uniform color; but the head, tail, nine flight feathers, and thighs, must be white; pearl eyed, small red feet and legs. These birds give little trouble and produce well.

The *English Pouter*, now the most in fashion of all the pigeon tribe, is a splendid large bird, measuring eighteen inches from beak to tail; circumference of crop not less than fifteen inches; legs, which must be well feathered, seven and a half inches. They are of various colors and shades, but the most esteemed and best bred are pied with white, and of the following colors: yellow, red, black, dun, blue, and silver. The two latter must have a double black bar on each wing and the tail; the white on the front of the crop, in the form of a new moon; a neat five or six leafed rose of white on each wing; and the leg and thigh clean white, evenly cut.

[We give place to the above, though somewhat out of our beaten track. That the dove-cot may form a useful and interesting feature of ornamental grounds, must be apparent enough to all who visit such places, for instance, as Springside. The subject, in this connection, has attracted but little attention here, but is working its way.—Ed.]

"PIERMONT," RESIDENCE OF DR. NORRIS, WILMINGTON, DEL.

We have for some time purposed giving the accompanying engraving of the residence of our correspondent, Dr. George Pepper Norris, and have only been waiting for the descriptive matter to do so. A correspondent of the *Gardener's Monthly* has recently been there, and has furnished a description that we like so well, that we take the liberty of transferring it to our own pages. We shall at another time give a description of "Rockwood," the residence of Mr. Shipley, and which is said to be one of the finest places in the country. The following is "Graptolite's" account of "Piermont:"

"The first place we visited is owned and managed by Dr. George Pepper Norris, whose name has been rendered familiar to the horticultural public by his essays, published in various journals. As the Doctor has excited a little sharp criticism, by his descriptions of other people's places, we went prepared to give him the benefit of a little close inspection of his own operations. The party

consisted of your correspondent and a Philadelphia 'expert' in Grape culture, &c. On inquiring in Wilmington where Dr. Norris's country place was located, we were informed that it was about a mile out of town, near the Poor-house; rather an unpromising locality, we thought, for the most enterprising horticulturist in Wilmington, but still in a direction much traveled by some amateurs. A short ride up the hill west of the town soon brought us to the gateway leading to the cottage, and here the fine scenery which burst upon our view, over a panorama of hills, valleys, and rivers, the well-kept carriage-

"PIERMONT," RESIDENCE OF DR. NORRIS.

road, the handsome lawn, the fine specimen-trees, and the elegant buildings before us, dispelled all fears which we had indulged that we should find material for criticism on the doctor's grounds. We felt sure that we were approaching the home of taste and skill.

"Dr. Norris has, in truth, one of the most beautiful situations which it has been our lot to examine for some time, and he has improved it in a very judicious and tasteful manner. The Gothic cottage is built of dark blue Bran-

dywine granite, which blends its hues in a manner peculiar to this stone, giving an effect to the walls such as could only be obtained, with other stone, by the most skillful painting and shading, or by a mixture of paint and fine colored sand. The color is exceedingly rich and pleasing to the eye. The stable and other buildings are all built of the same kind of stone, in semi-Gothic style, and form a very handsome and comfortable-looking group.

"In Pear-culture the Doctor has made a good beginning, and fortunately has a good show of fruit this year. The Grape-houses, which, until lately, have been entirely managed by the Doctor himself, are constructed with the latest improvements in borders, &c., and exhibit more than an average degree of success.

"Fruit-trees in pots, for the orchard-house, have also been cultivated with very satisfactory results, by bringing them forward in the Grapery, and ripening them out of doors. The Peaches and Plums, now in fruit, will rarely be excelled in appearance, even with the aid of a separate house for the purpose.

"Part of the farm, under the care of an experienced vegetable-grower, is worked with great activity and skill, and produces a handsome return for the enterprise of the proprietor. We examined some acres which could scarcely be excelled in neatness and profitable growth by the veteran truckers of Philadelphia or New York.

"The place is yet new, and although it offers no remarkable points of instruction, or great novelties in planting or management, it presents these excellent distinctive features: it is magnificently located; it is laid out and constructed with taste and skill, and is *finished up* as far as its improvements have been attempted, while the whole of it is managed in a judicious and profitable manner. There is no foolish waste, and no rubbish about it, which is a vast merit. We think the Doctor may be permitted to hang up his hat on a high peg in the horticultural halls."

EDITOR'S TABLE.

To Contributors and others.

Communications, Letters, Catalogues, Periodicals, packages by Express, &c., should be directed to the care of C. M. Saxton, 25 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

IT will be seen, by reference to our cover, that a change has been made in the HORTICULTURIST. An interest in it has been purchased by Mr. GEO. E. WOODWARD, whose name has been familiar to our readers for a year or more past as a liberal contributor on the subject of Landscape Adornment. This change will place at our disposal such facilities as will enable us to carry out some long contemplated improvements, and otherwise add to the usefulness of the magazine in such a manner as to make it more acceptable than ever. We are not accustomed to speak of our own labors, but we think we may say that we have done something to give the HORTICULTURIST its present high character as an authority on all matters coming within its sphere: this character we shall do our best to maintain. In our new relations we shall be enabled to give increased attention to Landscape Adornment and garden ornamentation, but we shall not neglect other interests, especially that most important of all, the science of Pomology. We shall endeavor, in short, to make the HORTICULTURIST an indispensable companion, not only to the possessor of lordly acres, but even to the owner of a city lot; such a companion, indeed, as no sensible man would willingly be without. The progress of rural art since the establishment of the HORTICULTURIST has been of the most gratifying description, and no little of this progress has been directly attributed to the influence of this magazine. It shall be our object to increase still further this influence, until every home shall become an especial object of endearment. While we are laboring thus in our "sanctum," may we not ask that our friends abroad in the world will do something to increase our list of subscribers? Some have done nobly in this respect; others might do much. Let no man imagine that the present war has created a necessity for stopping his supply of horticultural knowledge; there are many other things that he can much better do without. Whatever other kind of business may be suspended, certain branches of Horticulture must be pursued with additional vigor, and no thoughtful man ought at such a moment to deprive himself of any means of knowledge within his reach. Mr. Saxton will continue to be our publisher, and all letters, etc., may, as usual, be directed to his care.

Brooklyn Horticultural Society.—Undismayed by the times, the Brooklyn Society has determined to hold its annual exhibition. The list of prizes is a very liberal one, embracing the usual collections, and deserves, and will no doubt receive, the attention of gardeners and amateurs. We hope the friends of the Society, and the public generally, will on this occasion come forward and give it a generous support.

Nursery for Sale.—Mr. Miller's advertisement in the present number presents a rare opportunity for a person who wishes to embark in the propagation of the grape. It is seldom that a stock of this kind is offered for sale.

The Curculio and the Grape.—In examining a small vineyard lately, we found one bunch of grapes, every berry of which was marked with the crescent of the Curculio. We saw it on no others. We brought the bunch away, and the larvæ are now undergoing their change. We shall soon know what they are.

Ravenswood Pear.—Mr. Erhard has just sent us a basket of this fine pear, figured in our last number. The quality of these specimens quite confirms our previous impressions. It is not large, but its earliness, productiveness, and good quality make it especially desirable for the amateur. Many of the specimens were fully a third larger than our figure, which we consider about the average size.

Correction.—In our article on Newburgh Vineyards in last number, read Mrs. *Say* instead of Mrs. Fay.

Mr. Barry's Apple.—Mr. Downing writes to us, in reference to the specimens of this apple which we sent him, that he does not know what it is, being entirely new to him. Will Mr. Barry be so good as to tell us what local name it has?

The Curculio in the Black Knot.—Dr. Trimble has brought us some Curculios, in various stages of transformation, taken from the black knot on the Cherry. They are precisely identical with the Plum Curculio, a fact which we have before demonstrated. We think there can be no doubt that the Curculio in the knot, and those in the Cherry, Plum, Apple, &c., are all one and the same.

The Woodward Gate.—While driving through Newburgh lately we came suddenly upon a gate, which seemed to us to have a familiar look. It was the Woodward Gate, figured in our April number, which Mr. Thomas had adopted as the entrance to his fine estate. We saw two or three others, but this was the prettiest and best made of them all; not only that, but it was the best gate we saw in Newburgh, notwithstanding others may have cost three times as much. We know of no other gate combining so perfectly the elements of utility and beauty; it is light, strong, simple, and cheap to a degree which should make it popular. We expect to see Woodward gates swinging on all the roads.

Strawberries in Washington.—The following is an extract from a letter, dated July 25th, from Dr. John H. Bayne, of Washington City, who grows Strawberries very extensively for market. We should be glad to have a list of such other kinds as he grows, with an estimate of their value for market. All our readers, indeed, who raise Strawberries for market, would be doing a good service by sending us the names of the two or three kinds which they have found most profitable. Dr. Bayne remarks as follows:

"I have had a very fine and abundant crop of Strawberries the past season. The most profitable variety has been the Jenny Lind. I had them very early, and in large quantities, in market in advance of every body else. I ought to have made several hundred dollars every morning from the sale of them, and, but for the times, should have done so. However, I can not complain; I succeeded much better than I expected.

"Jenny Lind is the most reliable early variety I have ever cultivated. I shall cultivate it almost exclusively for an early crop. It is very beautiful in color, very early and tolerably productive, good size and flavor. I shall cultivate Jenny Lind and Prince's Magnate very extensively. They embrace every quality necessary to render them profitable for market, and if I were confined to two varieties, with my experience, I would unhesitatingly prefer these two. The Magnate is very large, productive, and fine in color. I have fully tested the merits of Wilson's Albany; it is quite large in size, and the most profuse bearer I ever saw. Notwithstanding its great productiveness, I shall not cultivate it to any great extent. It is exceedingly acid, and defective in the Strawberry aroma. It over-bears, and, I think, in dry seasons, will only mature a small portion of its fruit of good size. I have not seen any variety which continues to afford such a succession of large berries as Prince's Magnate."

Exhibition of Gladioli.—During the last of July and the beginning of August, Mr. Bridgeman had an exhibition of Gladioli at the Nursery at Astoria. The beds were covered with an awning, and thus protected, could be examined with much satisfaction. This collection embraces some two hundred varieties, many of them entirely new here. The display was very brilliant. We shall, by and by, give a list of the best twenty-four in this and some other collections.

Tritoma Uvaria Grandiflora.—W. C. Townsend, Esq., of Bay Ridge, has just placed on our table a noble stalk of this superb flower. The stalk is over four feet high, the flowers occupying a foot of it. This variety is much finer than Tritoma uvaria. We think it was raised by Mr. Veitch, of Exeter. The top most or unexpanded flowers are of a deep red, tinged with bluish purple; those next below, just opening, are of a brilliant orange red; while those fully expanded and just passing off are of a delicate straw color, all the colors passing gently from one to the other, and being beautifully harmonized. It is a charming

flower, and we are much delighted with it. Mr. Townsend will please accept our thanks.

Gladiolus Brenchleyensis.—We are indebted to Messrs. Spooner & Co., of Jamaica Plain, Mass., for a box of this superb Gladiolus. The color of the flower is a brilliant orange scarlet, with a pale yellow throat. It is large and well formed, and one of the best.

Brooklyn Horticultural Society.—The semi-monthly conversational meeting of this Society came off at the appointed time. The attendance was very good, and the presence of a number of ladies gave an additional interest to the occasion. The members bring with them plants and cut flowers, and half an hour or so is spent in their examination; and thus between the flowers and the discussions the evening is pleasantly passed. We attended the last meeting, and conclude, from what we saw and heard, that these meetings have become a permanent and most valuable feature in the Society's proceedings. The show of flowers was very good. Mr. Bridgeman, of New York, had a stand of remarkably fine Gladioli, consisting of seventy-five varieties, presenting a striking evidence of the great improvement recently made in this beautiful flower. Mr. Humphreys, of Brooklyn, made a good display of pot plants, such as Dracænas, Caladiums, Begonias, Ferns, &c., all in fine order. Messrs. Dailledouze & Zeller made a show of very fine cut Roses and Japan Lilies. Mr. Burgess exhibited Phloxes, Antirrhinums, Gladioli, and the sweet-scented and almost ever-blooming Daphne cneorum. Mr. Barnes, of Williamsburgh, showed fine Double Hollyhocks, Phloxes, &c. Mr. Fuller had a few very choice Gladioli. Mrs. Henderson presented a very neat and prettily made wreath, and the flowers for once seemed delighted that they could go into public without being put in a strait jacket. Mr. Weir placed on the table some fine Japan Lilies and Gladioli, and also Lilium Wallichiana, of the purest white, in the style of longiflorum, but larger, and very fragrant. The remarks made by the speakers we copy from the *Eagle*.

"At eight o'clock the meeting was opened by the President, J. H. Degrauw, Esq. After a few remarks he requested Mr. R. G. Pardee, of N. Y., to preside.

"Mr. Pardee said that he had just returned from the country, and was very fatigued, but he could not miss such an exhibition, and was sure that many from New York would be there did they only know of it. He was really glad to see the Brooklyn Horticultural Society take such a stand, and particularly in such times. He said the Gladioli were the finest he had seen, and from these the ladies could see what a delightful field they had open for the display of their floricultural taste. Raise seedlings and hybridize, and so get new varieties, even to surpass the splendid flowers before them.

"Mr. Brophy made some interesting remarks on the Pansy, or Violet, or Johnny Jumper, and urged the gardeners and amateurs to grow it from cuttings, instead of by seed. He gave the general standard of what was considered a perfect flower, in size, form, texture, and color.

"Mr. A. S. Fuller, of Myrtle Avenue, spoke of Gladioli, and gave an account of their mode of propagation and culture, and how they had been so greatly improved during the last few years; they can be raised from seed, but the bulb is the ordinary way. Take them up in the fall as soon as the foliage dies away, and keep them perfectly warm and dry until spring.

"Mr. Peter B. Mead, editor of the HORTICULTURIST, of New York, was present, and spoke, first, of the gardeners telling their customers, when they bought a plant, how they should take care of it, propagate it, and all about it, and particularly, when they came to these meetings, to tell all they know. He spoke of a new method of striking rose cuttings: Take a pan or saucer, fill two-thirds with sand, and then fill up with water; prepare the cutting in the ordinary way, cutting under a bud or an eye, and place it in this sand, and it will root in a much less time and with less failures than any other way. Also of the proper way of arranging bouquets, so that each flower can be distinctly seen; and commended the one exhibited by Mrs. Henderson. He spoke of the improvement that had been made in the Hollyhock, from the single to the full double, and the way they are planted at Mr. Kelly's place at Rhinebeck, N. Y., viz.: a large bed is planted with Hollyhocks and Dahlias alternately; the Hollyhocks bloom and are past as the Dahlias begin and continue till frost. The effect of this is very fine, and such as every one can produce on his own place. This was what was wanted in these meetings—plain, practical information, that all can avail themselves of; and if any one produces a new idea, give it freely, and some one may improve on it. He hoped the ladies would take a more active part in these meetings; if they did not like to ask questions, write them out, and the chairman could read them; in this way a vast deal of knowledge would be diffused and made available.

"Mr. Mead's remarks were listened to with great attention, and it is to be hoped the members will carry out his suggestions, and it will soon place the Society at the head of any in the country.

"Mr. Sidell followed in a few remarks, urging the gardeners to take more interest in the meetings and exhibitions, and for all to do what they could individually to carry out the suggestions that had been offered.

"After a vote of thanks to Mr. Mead and Mr. Pardee for their remarks, &c., the meeting adjourned to two weeks from last night, when they will take up the subject of Bulbs and Bulbous Plants, culture, &c., notice of which will be given in the *Eagle*."

Correspondence.

NEW ROCHELLE, AUGUST 14, 1861.

MR. EDITOR.—*Dear Sir:* The cold snap of last winter destroyed, to a great extent, the fruit-buds of all the Blackberries, wild and cultivated, in this neighborhood. No other part of the plant appears to be injured, and they are growing as usual, with some fruit on the late or second blooming. My crop of fruit is so small that I consider it a total failure. Cherry-buds were blasted in the same way. I have quite a large variety, and my trees are healthy, and in full foliage. Very little fruit was formed, and I did not gather a pound. The Wild Cherry trees are thriving, and are well laden with fruit. Apple trees fine, and generally in full bearing, and do not seem to be in the least injured by the cold or insects.

I have seen no nests of worms upon trees—none upon the grape-vines—and up to this time we seem to have entirely escaped from the ravages of the various tribes of destructive insects, and I do not hear any complaints in regard to the potato.

The late rain has been quite refreshing, and vegetation generally in our neighborhood was never more luxuriant and beautiful at this season of the year. Mercury this morning at eight o'clock 66°, and has not been above 84° this summer, and but four days as high as 80°.

[Thus writes Mr. Lawton. New Rochelle is a beautiful place, and would seem to be also, in many respects, a very favored one. In common with others, it has lost its Blackberries and Cherries, but has a good show of Apples. Its freedom from insects and the effects of the drought is remarkable; and then the thermometer has never been above 84°, while all around have been dried up, and burned up, and eaten up. Look out for us, Mr. Lawton, at the next "heated term."—ED.]

I WOULD like to know from the Editor of the HORTICULTURIST the name of the best white native Grape, exclusive of the REBECCA. Will you please hand him this slip, and oblige a NEW SUBSCRIBER.

[The above is a postscript to a letter received by the publisher. It is from a subscriber living North, and we answer him by naming the Cuyahoga. We think highly of Allen's Hybrid from the little we have seen of it. The Maxatawny we also consider a fine Grape; but it will require a climate considerably south of New York to ripen it. The Anna is likewise fine, but it must be grown some distance south of your home. So, too, the Manhattan. These are all green (or white) Grapes.—ED.]

MY DEAR EDITOR:—"There's husbandry in heaven," if not on earth. The season in this region is maturing in perfection the old White Doyenné Pear on

trees upwards of fifty years old, the fruit of which the last twenty-five has been subject to a disease worse than the plague of Egypt or the Asiatic Cholera. This peculiarity of the season has reference to the county. In the city this variety has always maintained its original excellence. Very truly yours,

Baltimore, Aug. 1st, 1861. MANY YEARS A MARYLAND SUBSCRIBER.

[This is good news indeed. We wish we could venture the hope that this fatal disease had reached its "climacteric," and that hereafter this noble Pear is to enjoy an immunity from the blight which makes its cultivation in many places almost hopeless. Has any similar condition of this pear been noticed elsewhere? —ED.]

VITAL FORCES IN PLANTS.—For the following communication we are indebted to Mr. Cranch, Corresponding Secretary of the Cincinnati Horticultural Society, before which it was read. The paper is very interesting, and contains valuable thoughts, but we regret that they are so ill-digested. The length of the letter prevents us from adding any notes of our own at present, interesting as the subject is.

"CINCINNATI, O., March 7, 1861.

"D. B. PIERSON, ESQ.—Dear Sir: Agreeably to your request for a subject for the consideration of yourself and your horticultural friends, I will suggest that of Motion, or the Vital Force in Vegetation. Much is said by our writers about proper *nutrition* for plants, while that which is equally as important is barely hinted at, as though to teach it would produce ridicule from those professing to comprehend all that may ever be known on the subject. Vital force, or *motive power*, is *one* thing, and *food made nutritious* for plants by chemical action, is another thing. However nutritious the food may be of itself, it is in a static condition, and can not be transferred to the plant, or tree, against gravity, unless by some adequate force; mere heat can't move it, while heat may cause fluidity and elasticity. Electricity is used to transfer metals in galvanizing, and as a motive power to machinery, and is doubtless our nerve power, or vital physical principle, derived by combustion of our food and air in our lungs, instead of oxygen, as we are taught, which is merely the *heating* principle of our natures, instead of *vital* principle.

"I will refer you to Patent Office Reports for 1844, pages 368–371, for *interesting* experiments in electricity, quickening the growth of different vegetables. Brown's American Muck Book, page 13, briefly refers to them. We know that the electrical condition of any matter is affected by any change of its density or composition. That chemical action or decomposition sets free latent electricity; that the stirring of the earth by plowing, giving the air and sun access to the decomposable matter of the soil, produces some change, and promotes electric currents; the earth and atmosphere being in different electric conditions, and the

sap being a good conductor, electricity flows and conveys the food, prepared by chemical action, to where it is needed. Unless this is so, why, in said experiments, did the vegetable grow so much faster? The ground was not made the richer by the electrical arrangement. Was it not because there was additional labor performed in supplying the increased nutriment, as in increasing the labor of carrying the bricks for expediting the completion of a building?

"May not Liebig *unconsciously* derive this *motive* power by the use of his *mineral* manures? May not there be greater chemical action, thence greater release of electricity in the ground, when *mineral* manures are used, especially if composted with animal and vegetable manures? Will not the *variety* of composition of such a compost *intensify* chemical action, promoted by the rains, soil, sun and air, and thus furnish to vegetation an *increased motive* power, to *convey* the *increased nutrition* to plants? *If so*, then it is a question to consider in connection with greater production and vitality of trees to resist disease.

"It is a common thing to hear of peach trees living and bearing forty or sixty years on the high *iron* lands of Ohio and Indiana. Doubtless, elevation of position has something to do with bearing, while the iron has much to do with the health of the tree and their age. Many will say that new ground is the best, because of its greater supply of nutriment. I will say, because of the decay of that nutriment, creating greater vital activity, without which nutriment would be of no use.

"Field's Pear Culture refers to use of iron for pear trees. Nails and iron have been used to save peach trees. George Graham, Esq., has used iron on pear trees to cure blight. Why? unless because of the electricity generated by the oxidation of the iron, and its being taken up by the sap—as in case of our blood—as a tonic. I. C. Ferris informs me that he knew of two large pear trees cured of the blight by being struck by lightning.

"Electricity pervades all matter, and that matter can not be changed and retain its latent electricity. *Read* Corn Hill Exchange, London, of Robert Clarke, Cincinnati, 1860, p. 167, etc., '*Why we Grow*,' and you will find *life* is given out by *decaying* matter to *living* matter, loss and gain constantly going on, one equivalent to the other. P. 167—'But according to the view which I now propose, decomposition is necessary to develop the force by which organization of food or nutrition is effected, and by which the various purely animal functions are carried on: that decomposition not only creates the necessity, but at the same time furnishes the force of recomposition.' What is this force? is the question. Liebig's Complete Works on Chemistry, last chapter, pp. 24–38, on chemical processes and change of place as affected by electricity—see.

"Without being lengthy, many works on electricity may be referred to, showing it to be the silent mechanic at work for us while we are asleep, building up for us our food, etc., its power depending on the intensity of chemical action going on in the soil, arising from diversity of elements of soil, as acids, alkalies, animal, vegetable, mineral manures, nature of the soil, its condition of moisture

and porosity, air, sun, heat, and *frequency of stirring*, and the application of this power to what we wish to cultivate, depending on the ground being free of weeds, etc., which will equally *appropriate* this *mechanical power*.

"If in the above experiments referred to, there had been *weeds* permitted to appropriate a *portion* of the power developed by the decomposition of the metals used, there would have been less growth of that cultivated. *A certain extent* of electricity developed naturally or artificially, is essential for a *given* growth, and if that electricity is *partly* appropriated to something else, the *power* being *divided*, the *aggregate* growth of the *two* is but *equal* to what the one *should* be; hence the necessity of *clean* grounds, *well* stirred, enriched with a *variety* of *manures* to favor the *greatest chemical action*, and development of the greatest amount of *mechanical* power. If these crude, ill-digested, hasty ideas should prove to be true, on being investigated by competent horticulturists and agriculturists, they should be prepared for the press. *Nutriment* is one thing, and the *motive power* to transfer it another. A child might starve if its mother should refuse to carry its food to it. The food would spoil before conveyed, if the child must come to it. The tree must be supplied; neither *tree* nor *food* can move of themselves. Nature has furnished in the *food itself*, during its *preparation*, *its motive power*.

"You have scientific associates who would probably be glad to make some experiments showing that the *same* soil may be made to produce much more *largely* by *increasing* the *production* of the *motive* power. It can be done in a hot-house at a small outlay.

"We have valuable manures thrown away in the city, worth more than would support our poor and needy. Ashes, gypsum, blood, and tank refuse, if dried and ground with bones, is as good as guano, hoofs, hair, lime, charcoal, and annual black night soil, &c., &c., and their use effective, *if above* suggestions are true. Iron pyrites can be had cheap.

"Nature has bountifully supplied us with all sorts of *nutriment* for vegetation, as well as the *working* power to *combine* and *rearrange* matter. *Contact* is essential to promote chemical action; hence, necessity of *frequent* stirring the soil, to allow new air, new sun-heat and light, promotive of chemical action in soil, from which the *motive* power is derived; while nature furnishes chemical action in the leaves of vegetation, by the action of the sun on the sap in the leaves, and the friction of the winds yielding electricity of the air; the atmosphere, in its electrical condition, differing from that of the earth, begets the *negative* and *positive* action sufficient to overcome the gravity, and *transfer* matter to where needed.

"We see the superior progress and civilization of our day arise from the subjection of physical laws to mental ones, as in the employment of steam power for stationary and movable machinery, chemistry, electricity, &c."

(To be continued.)

BROOKLYN HORTICULTURAL SOCIETY—SPEECH OF PRESIDENT DEGRAUW.

[*Continued from page* 390.]

The orators, the poets, and the philosophers of Rome, invite the student who would sympathize in their emotions. Such is the ancient history of Horticulture, and the first rosy light that beamed after the dark ages, kindled a new radiance about our subject. It is thus encompassed by the attraction of its modern history. The gardens of Holland and the Netherlands feel the influence of the society, and arts revived. The atmosphere of Italy and France next bring rich odors. They soon scent the Isles of Britain; they pervade the Continent.

This department of our subject draws its copious details from the moral and political state of Europe, while the last four hundred years have been inditing their momentous records. To the understanding of the intelligent it here offers a rich feast, for its garlands have allured the eye and called forth the emulation of the most celebrated literary worthies and benefactors of the human race in every region of the world. Since the invention of the microscope, at the beginning of the seventeenth century, the most wonderful discoveries, alluring multitudes to the pursuit of vegetable science, have given animation to their diligence and recompensed their toils.

The history of Horticulture thus puts forth its buds and thus expands its flowers in ancient and in modern times. When the inquirer, who is curious to learn its present state, ascends that eminence from which its groves and walks may be discovered, his interest is yet further heightened by the most gladdening discoveries.

In Europe a fresh impulse to investigation has been experienced; and many a distinguished naturalist on the Continent is emulous to obtain a wreath like that which decorates the brow of him who lately towered aloft, and gave a magnetic influence to the charms of Horticulture in our own land. But now, alas! the mournful branches of the funeral tree are waving over him; yet, with the distinctive qualities of the same cypress, the memory of Downing shall ever be green and enduring. Throughout our entire land, new stores are yet continually unfolding to us, and the vegetable treasures in our own domain appear to transcend in real value its precious mines. And we rejoice in beholding in our own land a scene at which the Horticulturist has cause to glory. We have already as a people, enriched by numerous treatises and volumes, the library that illustrates the natural products of the earth. And learning, genius, and talent are emulated by indefatigable industry and practical skill. The gardens that surround our city are abundant evidences of this truth.

Throughout the entire Union, as well as disunion, enterprise is now directed to the culture of the most valuable plants. Besides sectional objects, confined to

particular regions of our country, there are others also claiming universal notice, which may still be denominated national.

Of these the first, by its importance, is the cultivation of the vine; experiments have been successful, as the voices of our intelligent and enterprising farmers and horticulturists proclaim. The vine will flourish in our country, in various latitudes, and it yields to us an agreeable and valuable product. Yes, and native wines derived from it, and from the fruits of our orchards, and of our gardens, may be hailed by the philanthropist as the harbingers of a new era. The epoch may not be distant when the draughts that are inebriating and destroying thousands of our population shall be superseded by the use of milder and of salutary beverages.

Had I not already dwelt so long upon the first of the particulars, that were proposed for your attention, I might here enlarge upon the future prospects of our favored land; I might collect before you the anticipations which are suggested, by its unparalleled advancement in the facilities of transportation, and the extent of commerce—its canals and railroads, the staple product of its soil, and its natural adaptation for the most enlightened of all people on our globe. Exhibiting in their true colors the glories that may one day reach, like the celestial bow, from our Atlantic to our Pacific confines. I might direct your contemplation to this graphic symbol of our great national destinies, and when all sounds of a disunion shall have passed away, when the rude storm of political animosity shall have been stilled, and when the last echo of the thunderings that arrest us in the South shall cease to roll, as the prismatic arch, the token of an everlasting covenant of peace and union shall shed its smiles upon our soil, I might depict the happiest of lands, that, like an aromatic "field which the Lord hath blessed," shall send up to heaven, from the wide extent of its vast territories, the mingled perfumes of its cornucopia, sweet-scented fruit and fragrant flowers. As we mingle our sympathies with the subject of this evening, we may with joy reflect upon the numerous, the varied, and the enlivening themes by which Horticulture, with its stimulus to industry, is calculated to engage the intellect. And there is a moral halo that invests our subject. It can improve the heart. As we behold the wonders that abound throughout the vegetable kingdom, we are lost in the interminable manifestations of the Supreme. The organization that pervades it lifts up our hearts unto an Omniscient Creator. We can not view the mechanism of a single plant without this sentiment. We see the several parts of which it is composed arranged with a regard to its nutrition and perpetuity demonstrating a contrivance the result of the profoundest wisdom.

The succession that is discoverable in the annual circuit of our globe, directs our thoughts to Him,

"The life and light
Of all this wondrous world we see."

Flowers, fruits, and culinary plants attain perfection in a series that must com-

mand our gratitude. Not lavished with an indiscriminate profusion at some one forward crisis of the year, they are dispensed with an all-wise frugality, and yield their fruits every month.

Their nature also is adapted to the condition of mankind. Where sultry beams are shed upon the torrid zone, umbrageous groves extend their branches; where the polar skies are cheered by a short summer's reign, its vegetation is distinguished by a rapid progress to maturity. Where manual labor is discouraged by oppressive heat, and where the mind is destitute of moral enterprise, abundant aliment is yielded to the lowest cultivator of the soil. But in the temperate regions of the earth, where, unexposed to the depressing influence of an ungenial atmosphere, man walks abroad delighting to exert his energies, here nature calls forth talent, and awakens industry, by obstacles which she allures them to surmount. As if anticipating the caprice of man, in countries where the valley and the mountain each invite his residence, the products of the torrid zone are found within this vale, and on that towering summit is displayed to view a northern vegetation. In the distribution of the odors that are breathed around us, nature seems to have been regulated by the same economy, where happiness is found only in the refinement of the senses; where in luxurious repose, the Hindoo, with no zest for intellectual delights, seeks an innocent enjoyment in exhalations of sweet flowers, these the loveliest of plants, that are unrivaled in their perfume, dispense aroma in rich offerings to the ambient air.

> "Who has not heard of the vale of Cashmere,
> With its roses the sweetest that earth ever gave?"

Where man, upon another continent, is seen degraded by the most loathsome appetites, and we are told that by a remarkable peculiarity, which he possesses, in common only with the inferior animals, the Hottentot experiences an emotion of delight at the carrion-smell of what regales the hyena and the vulture, in that region of the earth—as if the poor savage was to be indulged in his caprice—while oriental perfumes are withheld, plants distinguished among us by their offensiveness, the Stapelias, in their variety, abound upon the soil, and fill the air with their putridity of savor.

Wherever man resides are found nutritious berries, which are nutritious to all. The barberry, the cranberry, and the dwarf mulberry regale the distant Laplanders, and beside these, the currant forms a wholesome food for the inhabitants of Greenland. Does the exhausted native of warm climates, parched with thirst, ask such plants as may be most refreshing to his feeble energies? lo! nature's bounty has supplied him with the melon, and the pineapple, and all cooling fruits. And does the mariner, from the long use of salt provisions, need some prompt remedy for its scorbutic influence, he may coast along the shores of the most distant regions of the north or south and be furnished with the succory, the cresses, and the wild sorrel, from Siberia to the remotest of the Pacific Isles. The Bo-

tanical Materia Medica is but an enlargement of this interesting thought. But on a theme so vast I dare not venture further. It is replete with interest whithersoever we direct our eyes, from the most attenuated lichen that is scarce discoverable on the rock, to the huge brobab developing its mammoth trunk of eighty feet; and from the lowliest moss that peeps above the surface of the soil, to the towering palm tree of the tropics. As the march of knowledge shall advance, and men be more minutely taught the mysteries of nature, this wide field of science with an increased earnestness shall be explored. What has been discovered in the heavens by the rare genius of Laplace, bold, brilliant, and aspiring, by some future Linné may be accomplished in regard to the earth; and while the blue vault, and while the verdant landscape, are more and more distinctly uttering,

"The hand that made us is divine,"

the philosopher and Christian will continually be attracted by new themes of wonder, love, and praise.

It has been my object not to venture far within this vast domain, but merely to suggest what may be interesting in the subject proposed. A single pearl proclaims the boundless treasures of the deep; one gem is witness of exhaustless mines within the earth; and a few fitful rays from the canopy above may reveal to the imagination innumerable worlds of glory. Under the influence of these thoughts, I would now say to the members of the Society, while you participate in the intellectual and moral stores of Horticulture, you have a two-fold object worthy of your tenderest solicitude. It is for you to collect the vegetable treasures of every land and enrich them with the glories of our own. Were public grounds provided in our city, or in its suburbs, we doubt not that we should rejoice at the benign results. We have a soil which, like the heritage of ancient Israel, is the glory of all lands; within the limits of our wide and far-spread country may be discovered an appropriate residence for most every plant in all the four-and-twenty classes of Botany.

In the mythology of ancient Rome, it was ingeniously fabled that Pomona could not be induced to shed a smile on any of her suitors, until her heart was touched by the devout breathings of Victorius, and in the tenderest bonds were joined the god of merchandise and the divinity of gardens. The ingenious fable is instructive for our art.

"Thrives most
Whose commerce has enriched the busy coast,
He catches all improvements in his flight,
Spreads foreign wonders in his country's sight."

(*To be concluded in our next Number.*)

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